



## **CertiPUR Label for Flexible Polyurethane Foams**

### **Application Form and Technical Requirements**

1 July 2017

This document is destined to foam manufacturers who would like to apply for the CertiPUR label, the Safety, Health and Environment (SHE) standard of the European Association of Flexible Polyurethane Foam Blocks Manufacturers (EUROPUR).



## I. General Information (page 3)

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

## II. Application Procedure, Enforcement and Contractual Conditions (pages 4 to 14)

This chapter provides details on the application process, the operative rules of CertiPUR and other important information, as well as the application form that applicants have to complete to start their certification (pages 9 to 14).

## III. Technical Requirements (pages 15 to 19)

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

- **Substances subject to measurable limits:**
  - Sampling procedure
  - Tinorganic substances
  - Phtalate plasticizers
  - TDA or MDA
  - Emission of volatile organic compounds
  
- **Substances that are prohibited:**
  - Heavy metals
  - Dyes
  - Phtalate plasticizers
  - Substances with certain H-phrases
  - Blowing agents
  - Total chlorine content of isocyanates
  - Other prohibited substances



## I. General Information

The CERTIPUR label is a voluntary standard for the environment and health 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 hazardous components.

In daily life, polyurethane foams are essential for comfort and used in a very broad variety of applications. Their unique performances must however be combined with a stringent standard when it comes to environment and health considerations. Downstream industry customers, final consumers and regulators legitimately expect proof of conformity of polyurethane foam with existing legislation but also with the latest scientific knowledge on substances used in formulations in order to minimize any impact on consumer's health and the environment.

CertiPUR meets these expectations through a clear commitment to avoid or limit strictly the presence of any potentially harmful substance in flexible polyurethane foams. In this approach it stays ahead of evolving EU legislation, such as the EC General Product Safety Directive 2001/95/EC, the REACH Regulation EC 1907/2006 or other relevant legislation.

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. Control tests on certified foams of each label holder take place at least once a year.

### How CertiPUR works

CertiPUR sets criteria in two categories:

- **Measurable upper limits** for finished foam on certain substances that are either used in foam production or that can be found in foams. CertiPUR designates these restricted substances and defines accepted test methods to determine these limits.
- **Prohibited substances**, for 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 Flexible Polyurethane Foam Blocks Manufacturers, which is in charge of the PU foam standard and its label CertiPUR.



## II. Application Procedure, Enforcement and Contractual Provisions

### 1° Obtention of the CertiPUR Label

To obtain the CertiPUR label, applications must go through the following procedure:

#### **Sending in application Form**

To start the application procedure, applicants send the application form (pages 9 to 13) of the present document to EUROPUR aisbl by email or regular mail. The form must be signed by a duly authorized representative of the company.

#### **Reference Number and Foam Testing**

Upon receipt of the application form, **EUROPUR issues a reference number and – for each foam family for which the label is requested – select the grade to be tested for conformity with the measurable limits for substances as set in chapter III Technical Requirements.** All foam families for which CertiPUR certification is requested have to be tested.

When doing so, EUROPUR provides the applicant with **sample submittal forms** that the applicant must use for sending foam samples to be tested to the accredited laboratory he selected. This first tests are to be paid for by the applicant directly to the accredited laboratory.

#### **Payment and Issuing of Label**

If the foam samples provided to the accredited laboratory are in conformity with CertiPUR requirements, then EUROPUR issues an invoice to the applicant for the cost of his label for the next 3 years. Only foam families of which the samples successfully passed the test will be mentioned on the label. **Once the invoice is paid, EUROPUR issues a CertiPUR label to the applicant, which officially becomes a label holder.** He can then make use of the label and CertiPUR logo for the foam families covered by the label and the company's name is added to the list of label holders on EUROPUR's website.

### 2° Price

The cost of a CertiPUR label for **EUROPUR Members** is 3,300 EUR for a period of three years.

The cost of a CertiPUR label for **non-members** which are label holders for the first time includes a scheme entry fee of 4,000 EUR and the 4,800 EUR fee for 3 years (8,800 EUR in total). The cost of the CertiPUR labels covers the administration of CertiPUR and control tests to be performed during the validity period of labels (please see point "Controls and Enforcement" below).



### **3° Controls and Enforcement**

**At least once a year, EUROPUR will ask each label-holder to send foam samples for control testing** to the accredited laboratory selected on their application form. When doing so, EUROPUR may at its discretion chose to test any of the foam families covered by the label holder's CertiPUR label. The applicant must send the foam samples to the laboratory within 30 days from the date of request. The cost of such control tests is paid for by EUROPUR.

**If the samples pass the control test**, the label holder can continue to use the CertiPUR label and is given a copy of the test report. **If samples sent for control tests fail the test**, the label holder is given a copy of the test report and has 4 weeks maximum to review his formulation and re-send foam samples of the same family and grade for a new test to be performed. In that case, he must pay for this new test. If the samples fail the test again, the CertiPUR label is suspended until the applicant can provide new test reports proving that he remediated to the situation and that his foam is in conformity with CertiPUR requirements. Until such time, he cannot anymore use the CertiPUR logo or his label and notice of the suspension of the label is added to CertiPUR's website.

Failure to send foam samples for control testing, or to take corrective actions when samples fail control tests, or to respect the above-set deadlines may lead to the complete withdrawal of the CertiPUR label at EUROPUR's discretion after warning in writing.

Label holders who continue using the CertiPUR logo or refer to a CertiPUR label that has been suspended or cancelled will be charged a penalty fee of 10,000 EUR per incident and be banned from CertiPUR certification for a period of three years. In case of unauthorised continuation of use of the logo and and label, EUROPUR reserves the right to take appropriate legal action against the label holders for misuse of our CertiPUR trademark.

### **4° Other contractual conditions and information**

#### **CertiPUR Trademark**

CertiPUR is a registered trademark of EUROPUR, the European Association of Flexible Polyurethane Foam Block Manufacturers. This trade association manages the administration of CertiPUR (processing of applications, relations with label holders, enforcement). It is also responsible for updating the specifications of CertiPUR. EUROPUR is not performing any tests on foam itself, these are performed by independent accredited laboratories.

EUROPUR aisbl  
Avenue de Cortenbergh 71  
B-1000 Brussels  
Tel : +32 2 741 82 83  
Email: info@europur.org



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EUROPUR is a trade association registered in the registry of commerce of Brussels (Belgium) under the number: 0451 703 066

### **Scope of the CertiPUR label**

CertiPUR only covers polyurethane foams used in bedding and upholstery applications. It is designed as a common European standard covering the chemical compounds or substances used to produce flexible polyurethane foams or which may be contained in them. CertiPUR only covers health and environmental aspects, it does not apply to physical characteristics such as density or hardness.

### **Geographical validity**

The label can be used worldwide. Our trademark is protected in the EU28, Norway and Turkey.

### **Right to use the CertiPUR label and logo**

Label holders have the right to use their CertiPUR label and the CertiPUR logo for further communication or on their website or other documents for the duration of validity of their label and provided their label has not been suspended or cancelled. They can transfer this right of using the CertiPUR label and logo to their customers, provided their customers sign a declaration form in which they commit to only use the label on for products containing 100% of foam certified under CertiPUR. This declaration form can be obtained from EUROPUR upon simple demand. Failure to complete this declaration will be considered as unauthorised use of our trademark.

### **Modification of technical, legal and other requirements**

EUROPUR may at any time review and update the technical, legal and other requirements of the CertiPUR label. All CertiPUR label holders will be informed of the changes performed and will be responsible for making the necessary adjustments.

### **Legal entity / Label holders**

CertiPUR labels are granted per legal entity per country. An application is required for each legal entity. If a company operates foam production plants in different countries, only those for which an application is entered can obtain the CertiPUR label, which will clearly identify which plant it has been issued for. If one legal entity operates more than one plant in one and the same country, they can be covered by the same application. However in that case, the first conformity test must cover samples provided by all the plants to be covered by the CertiPUR label in the said country.

### **Foam families**

Applicants can select the foam families they would like to be covered by the CertiPUR label when completing the application form. The number of foam families to be covered has no



incidence on the cost of the CertiPUR label (but it does on the number of tests to be performed). But if a foam family is covered by the label it is the right of EUROPUR to request that foam to be tested for a control test. Repeated failure in tests (see point 3 “Controls and Enforcement” above) for one foam family may lead to the suspension or withdrawal of the label for all the families covered by the label.

Applicants can add additional foam families to their label during the period of validity of their label at no additional cost, except the cost of testing. In that case however, a full test must be performed on foam samples of a grade to be selected by EUROPUR before the foam family can be added to the label. This test has to be covered by the application/ label holder. Addition of a foam family has no incidence on the overall duration of validity of the label.

### **Accredited laboratories**

Applicants must use the following accredited laboratories for testing foam samples for conformity with CertiPUR. Test results from non-accredited laboratories are not accepted.

These laboratories are:

#### ***Eurofins Product Testing A/S***

Mr. Soren Ryom Villadsen  
Smedeskovej 38 – DK – 8464 Galten  
Tel: +45-70.22.42.76. – Fax: +45-70.22.42.75  
General contact e-mail for all countries: [voc@eurofins.dk](mailto:voc@eurofins.dk)

#### ***Hall Analytical Laboratories Ltd***

Nick Ordsmith  
Unit A, Millbrook Business Centre  
Floats Road, Manchester  
England M23 9YJ  
Tel: +44 161 286 7889  
Email: [nick@hallanalytical.co.uk](mailto:nick@hallanalytical.co.uk)

#### ***TÜV Rheinland LGA Products GmbH***

Dr. Bernd Maciej  
Tillystrasse 2 – D-90431 Nürnberg – Germany  
Tel: +49 911 655 50 – Fax: +49 911 655 42 35  
Email: [bernd.maciej@de.tuv.com](mailto:bernd.maciej@de.tuv.com)

### **Third Party Claims**

It is understood that not all foam production of label holders is constantly tested under CertiPUR but that tests are performed at random and at least once a year during the period of validity of labels. The responsibility of complying with the specifications of CertiPUR at all times for the foam families that are certified therefore lies with the label holder who is solely responsible for the foam he produces. By entering an application form, the applicant / label



holder specifically states that he holds EUROPUR harmless from any claim to be made by a third party for non-conformity of one of his products covered by CertiPUR or from damages he would have to pay to the said third party for providing foam that is not in conformity with CertiPUR requirements. Further, the applicant commits to indemnify EUROPUR completely for any loss suffered or damages incurred.

### **Confidentiality**

EUROPUR commits to treat all information received from applicants or in relation to CertiPUR labels (including test reports) confidentially. Anonymous and aggregated data may however be used for supporting scientific studies on substances contained in and emissions from polyurethane foam.

The names of label holders and the dates of validity of labels will be posted to our website, which will also mention the list of suspended or withdrawn labels and the legal entities they had been attributed to.

### **Period of Validity / Renewal**

CertiPUR labels are valid for three years, until the validity date mentioned on the label.

3 months before the expiration of a label, EUROPUR will contact the label holder for starting the renewal procedure. The renewal procedure is the same as for a new application, with the exception that non-members wishing to renew their label do not have to pay the scheme entry fee again.

### **Legal Dispute / Conflict Resolution**

Both the applicant / label holder and EUROPUR aisbl agree that any conflict arising between them will be settled in the Courts of Brussels, Belgium and that Belgian law is applicable to the application procedure, enforcement and other contractual conditions between them.

### **For more information / questions:**

Please contact:

EUROPUR aisbl  
Avenue de Cortenbergh 71  
B-1000 Brussels  
Tel : +32 2 741 82 83  
Email: info@europur.org





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## CertiPUR – APPLICATION FORM

### **Instructions:**

Please fill send a fully completed and signed copy of this application form to EUROPUR:

- either by email to [info@europur.org](mailto:info@europur.org)
- or by mail to: EUROPUR aisbl, Avenue de Cortenbergh 71 – B-1000 Brussels.

Upon receipt of your application form, EUROPUR will contact you to let you know your CertiPUR reference number for the continuation of the application process and send you sample submittal form(s) so that you can proceed with testing foam samples for conformity with CertiPUR at the laboratory of your choice.

Please do not send any foam samples to a laboratory before you received the sample submittal form since we will select the foam grades to be testing in the different foam families for which you apply for CertiPUR for the first test.



## 1. The Applicant - Legal entity details / Invoicing Details

Company Name	
Address	
Postal Code / City	
Country	
VAT Number	
PO n° (if applicable)	
Are you a EUROPUR Member?	<input type="radio"/> YES <input type="radio"/> NO The full list of EUROPUR members can be found here in case of doubt: <a href="http://www.europur.org/about-us/members">http://www.europur.org/about-us/members</a>

## 2. Plant(s) applying for CertiPUR

Please complete ONLY if the name and address of the plant(s) is different from those of the applying legal entity. Only plants located in the same country as the applying legal entity can be covered by one and the same label. For plants located in different countries, different applications must be made.

PLANT N° 1:

Plant Name	
Address	
Postal Code / City	
Country	

PLANT N° 2:

Plant Name	
Address	
Postal Code / City	
Country	



### **3. Contact details of company representative**

<b>First and Last Name</b>	
<b>Position</b>	
<b>Tel</b>	
<b>Fax</b>	
<b>Email</b>	

### **4. Foam families to be covered by CertiPUR**

I apply for CertiPUR 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



## 5. Selection of the accredited laboratory

Please select from the list of accredited laboratories below the one with which you would like your foam samples to be tested during the period of validity of your label (please tick the appropriate box).

- Denmark: Eurofins Environment A/S
- Germany: TÜV Rheinland Products LGA GmbH
- United Kingdom: Hall Analytical Ltd

## 6. Prohibited Substances

We, (the legal entity):.....

Hereby declare that we do not intentionally add any of the prohibited substances identified in the “Technical Requirements” (section 2 – substances that are prohibited) in any of the foam families we apply CertiPUR for.

Signature: .....

## 7. 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 4 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: .....



## 8. 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, which will receive a copy of the test reports.

Signature: .....

## 9. 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 provisions of chapter “II. Application Procedure, Enforcement and Contractual Provisions” and the details of the application form. We agree with them and understand that they shall be binding to both us and EUROPUR for the duration of validity of our CertiPUR label, should it be granted.

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

**End of ‘Application Form’**



### III. Technical Requirements

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

Substance	CAS-No.	CertiPUR Standard Limit (ppb)	LOQ [ppb]
Tributyltin (TBT)		< 50	5
Dibutyltin (DBT)		< 100	5
Monobutyltin (MBT)		< 100	5
Tetrabutyltin (TeBT)			
Monooctyltin (MOT)			
Diocetyl tin (DOT)			
Tricyclohexyltin (TcyT)			
Triphenyltin (TPHT)			
Sum*		< 500	50

#### 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

Substance	CAS-No.	CertiPUR Standard Limit	LOQ [ppm]
Sum of 7 phthalates°:		≤ 0.01 wt %	50
Di-iso-nonylphthalate	28553-12-0		
Di-n-hexylphthalate	84-75-3		
Di-n-octylphthalate	117-84-0		
Di (2-ethylhexyl)-phthalate	117-81-7		
Di-iso-decylphthalate	26761-40-0		
Butylbenzylphthalate	85-68-7		
Dibutylphthalate	84-74-2		

°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)

Substance	CAS-No.	CertiPUR Standard Limit	LOQ
2,4 Toluenediamine (2,4 TDA)	95-80-7	≤ 5.0 ppm	0,5 ppm
4,4' Diaminodiphenylmethane (4,4' MDA)	101-77-9	≤ 5.0 ppm	0,5 ppm

#### 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

Substance	CAS-No.	CertiPUR Standard Limit [ $\mu\text{g}/\text{m}^3$ ]
Formaldehyde	50-00-0	10
Toluene	108-88-3	100
Styrene	100-42-5	5
Each other CMR substance class 1a or 1b (*)		5
Sum of all CMR substances class 1a and 1b (**)		40
Aromatic hydrocarbons		500
<b>Organic volatiles (total)</b>		<b>500</b>

\* Note: according to EU legislation

\*\* including Formaldehyde

#### 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  $\text{m}^2/\text{m}^3$  (= 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  $72 \pm 2$  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  $\geq 1 \mu\text{g}/\text{m}^3$ . TVOC value is the sum of all components with a concentration  $\geq 1 \mu\text{g}/\text{m}^3$  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  $\geq 1 \mu\text{g}/\text{m}^3$ . 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 m<sup>3</sup>.

1 sample (25 cm x 20 cm x 15 cm) is used in a test chamber of 0.5 m<sup>3</sup> 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 m<sup>3</sup> 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.

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



## 2.2. Dyes

Substance	EU legislation
Dyes which are cleavable into arylamines	<b>Directive 2002/61/EC and its amendments</b>
Dyes which are classified as carcinogenic	<b>Regulation EC n°1907/2006 and its amendments</b>
Dyes which are classified as allergens	<b>Regulation EC/1896/2000 and its amendments</b>

## 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  $\leq 0.01$  wt % by measurement.

## 2.4. Substances with certain H-Phrases

Raw materials which, in their most recent MSDS, mention the H-phrases H340, H350, H360, H370 shall not be used.

H-Phrase
H340 (may cause genetic defect)
H350 (may cause cancer)
H360 (may damage fertility or the unborn child)
H370 (causes damages to organs)



## 2.5. *Blowing agents*

Substance
CFC*
HCFC*
Halons

\* 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

Substance	CAS-No.
Chlorinated or brominated dioxines or furans	
Chlorinated hydrocarbons (1,1,2,2-Tetrachloroethane, Pentachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethylene)	
Chlorinated phenols (PCP, TeCP)	87-86-5
Hexachlorocyclohexane	58-89-9
Monomethyldibromo- Diphenylmethane	99688-47-8
Monomethyldichloro- Diphenylmethane	81161-70-8
Nitrites	
Polybrominated Biphenyls (PBB)	59536-65-1
Pentabromodiphenyl Ether (PeBDE)	32534-81-9
Octabromodiphenyl Ether (OBDE)	32536-52-0
Polychlorinated Biphenyls (PCB)	1336-36-3
Polychlorinated Terphenyls (PCT)	61788-33-8
Tri-(2,3-dibromo-propyl)-phosphate (TRIS)	126-72-7
Trimethylphosphate	512-56-1
Tris-(aziridinyl)-phosphin oxide (TEPA)	5455-55-1
Tris(2-chloroethyl)-phosphate (TCEP)	115-96-8
Dimethyl methylphosphonate (DMMP)	756-79-6
Biocides	Except those authorized by the Biocidal Products Regulation EU/528/2012 and its amendments

End of text