

WCSR Advice 2015-06

SCIENTIFIC COMMITTEE REACH (WCSR)

ADVICE ON CMR PETROLEUM SUBSTANCES IN TEXTILE (BASED
ON ARTICLE 68(2) OF REACH)



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BACKGROUND, LIST OF SUBSTANCES, SCOPE AND DEFINITIONS

BACKGROUND & LIST OF SUBSTANCES

On 22/10/2015, the European Commission (DG for Internal Market, Industry, Entrepreneurship and SMEs, Unit D.1 – REACH and DG Environment, Unit A.3 – Chemicals) launched a public consultation on a possible restriction of hazardous substances (CMR 1A and 1B) in textile articles and clothing for consumer use under Article 68(2) of Regulation EC No 1907/2006 (REACH).¹ A copy of the online questionnaire can be found as Annex I to this advice.

All citizens and in particular companies and organisations potentially concerned with the proposed restriction are sought for participation. The deadline of the public consultation is set to 22/01/2016.

The Commission intends to use Art. 68(2) to target specific categories of consumer articles, aiming to restrict CMR substances (categories 1A and 1B) in them. Textile articles and clothing were selected as a first test-case because of the high likelihood of a prolonged – or multiple short-term – exposure of consumers to CMR substances being potentially present in those articles through dermal, oral or inhalation exposure.² The list of CMR substances (individual substances or groups) covered by this possible restriction would be added as a specific appendix to Annex XVII to REACH and could be regularly updated, as appropriate. The Commission, in collaboration with ECHA and Member States Competent Authorities, has identified a preliminary list of CMR substances Cat. 1A and 1B potentially present in textile articles and clothing.³ The list was collected from information available in various

¹ http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8299

² Report of 16th Meeting of Competent Authorities for REACH and CLP (CARACAL), 10-11 November 2014, CCAB, Brussels, Belgium.

³ CONFIDENTIAL: List of CMR substances that could potentially be present in textile articles, Report from Risk Management Expert Meeting RiME-1/2015, Brussels, Belgium, 26-27 February 2015

sources, including but not limited to REACH registration data.⁴ From that proposal, the EC has compiled a condensed list.⁵

This condensed list of CMR substances targeted can be divided in three groups:

- (1) classified dyes and carcinogenic amines (ANNEX II to this report)
- (2) petroleum and coal stream (PETCO) substances (ANNEX III to this report)
- (3) other substances (ANNEX IV to this report)

For the listed components, there is an indication of the (possible) presence in textile or clothing articles. The reason for including the second group of substances (PETCO substances) is according to the EC related to their use as raw materials in the textile supply chain.

The main objectives of the public consultation include:

- (1) collect information on the presence or the likelihood of presence of the identified CMR substances in relevant consumer articles
- (2) gather in so far as possible information on their concentration, function and on the availability of alternatives

⁴ Bluesign 2013, bluesign® systemsubstances list (BSSL) Consumer safety limits Version 3.2 | effective from May 01, 2013

EC 2014, Ecolabel textile products (European Commission, COM Decision CELEX_32014D0350_EN)

ECHA 2014, REACH Registration database

Greenpeace 2012, Hazardous chemicals in branded textile products on sale in 27 places during 2012. Kevin Brigden, Iryna Labunska, Emily House, David Santillo & Paul Johnston, Greenpeace Research Laboratories, Technical Report 06/2012

Greenpeace 2014, Hazardous chemicals in branded luxury textile products on sale during 2013. Kevin Brigden, Samantha Hetherington, Mengjiao Wang, David Santillo & Paul Johnston, Greenpeace Research Laboratories, Technical Report 01/2014, February 2014

JRC 2013, Revision of the European Ecolabel and Green Public Procurement (GPP) Criteria for Textile Products. Technical report and criteria proposals. Working Document

Kemi 2013, Hazardous chemicals in textiles – report of a government assignment, Report No 3/13

Kemi 2014, Annex I to the letter: "Restriction of CMR substances, category 1A and 1B, in textile consumer articles through Reach article 68(2), 25/06/2014"

Oeko-tex web site, Limit values and individual substances lists, https://www.oeko-tex.com/en/manufacturers/test_criteria/limit_values/limit_values.html

Prato municipality 2013a, Prato 2013, Filiera moda: Sicurezza chimica dei prodotti, ITA rev. finale2

Prato municipality 2013b, Prato 2013, Buzzi Laboratorio analisi: Sicurezza Chimica, Filiera Moda rev. finale

Prato municipality 2014, Prato 2014, study: Fashion products and chemicals

UNEP 2011, The Chemicals in Products Project: Case Study of the Textiles Sector prepared by United Nations Environment Program, DTIE / Chemicals Branch

⁵ See annex V to this report for background info on the EC public consultation

(3) to map the potential socio-economic impacts and the enforceability of the possible restriction.

SCOPE AND DEFINITIONS

- SCOPE

In the preparatory phase to the public consultation, the EC announced that no residue of PETCO substances are present in the targeted textile articles. If this statement would have been preserved, these compounds would be excluded from the anticipated ban. As there were concerns about the original statement, BECA (Belgian Competent Authorities) launched a request for an advice on this matter, in particular as this issue related to possible consumer exposure to CMRs from clothing. In the public consultation, the EC however included the PETCO list.

- DEFINITIONS

Note: all definitions listed in this section, except if indicated differently, are taken from Annex I to this report which covers the full content of the online public EC consultation or references therein

article 68 (2): a simplified procedure, which the Commission may use to restrict substances classified as carcinogenic, mutagenic or toxic for reproduction (CMR), categories 1A and 1B on their own, in mixtures or in articles that could be used by consumers.

CMR: carcinogenic, mutagenic or toxic for reproduction

CMR 1A: compounds known to have carcinogenic, mutagenic, toxic for reproduction potential for humans, classification largely based on human evidence

CMR 1B: compounds presumed to have carcinogenic, mutagenic, toxic for reproduction potential for humans, classification largely based on animal evidence

Textile article: item that consists of at least 80% of textile fibres by weight or that contains a part that consists of at least 80% of textile fibres by weight, raw, unfinished, semi-finished and finished goods, whether or not coated or laminated, including articles such as clothing, footwear, accessories, interior textiles, fibres, yarn, fabrics and knitted panels.

Examples of articles intended to be covered:

- underwear, nightwear, swimwear, garments, scarfs, ties, handkerchiefs, hats, gloves, socks,
- footwear, clothing or their parts and accessories made of synthetic/artificial leather;
- footwear, clothing or their parts and accessories made of artificial furs or hides;
- interior articles such as hangings and curtains, carpets and other floor coverings, table mats, table
- cloths, towels, bed linen, pillow cases.

Examples of excluded articles

- footwear, clothing or their parts and accessories made of real leather, furs or hides and toys

PETCO substances:

refers to the large number of substances which are derived from crude oil (petroleum), natural gas condensates or coal. These substances are subject to nomenclature rules developed jointly by the United States Environmental Protection Agency (EPA) and the American Petroleum Institute (API)^{6, 7}. An expert group is active on the level of ECHA, targeting PETCO substances. Coherence should be sought in the future when defining and further developing the subject.

A detailed overview of definitions related to textiles can be found online in the European Directive on textile fibre names and related labelling and marking of the fibre composition of textile products.⁸

⁶ <http://www.petroleumhvp.org/petroleum-substances-and-categories>

⁷ Presentation downloads on http://echa.europa.eu/news-and-events/events/event-details/-/journal_content/56_INSTANCE_DR2i/title/workshop-on-substance-identification-and-substance-sameness

⁸ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1007&from=EN>

REVIEW OF TEXTILE RELATED PROCESSES AND LINK TO EC LIST

TEXTILE PRODUCTION PROCESS

The production of a textile is based on various steps in which a fibre is applied as starting material.

A variety of fibres exist to produce yarns including natural and synthetic ones. The natural fibres can be further divided into (1) vegetable materials including cotton, flax, jute and hemp and (2) protein fibres including silk and wool. Cotton is the most important natural fibre. The synthetic fibres can be further divided into (1) semi-synthetic fibres including cellulose acetate, cellulose xanthate, ... and (2) fully synthetic fibres including polyamides, polyesters, polyolefins and polyacrylics. The aforementioned fully synthetic fibres make up nearly the complete synthetic fibre entire market.⁹

The fibre of choice is first converted into a yarn (via spinning) followed by a further conversion into a fabric (via knitting or weaving). The obtained fabric is then taken through some finishing steps including among other bleaching, dyeing or printing (i.e. localized dyeing) and fabrication into a final consumer article.

LEGAL FRAMEWORK

The textile industry is characterized by an extremely complex form of collaboration which is due to the fact that the different steps in the production process from raw material to finished textile are typically located in different places worldwide. This fragmentation implies the involvement of various companies throughout the textile production chain. If these companies are located in various countries, differences in environmental regulations apply.

At present, the European authorities do not impose any quality benchmarking for consumer textile articles, irrespective of their origin (imported versus non-imported). Despite this lack in the implementation of the legislative framework, international or European quality labels or European Directives are in place including the European Ecolabel¹⁰, the European Directive textile labelling¹¹ and many other of which STEP (sustainable textile production), ECO-passport, Der Blaue Engel, GUT (gemeinschaft umweltfreundlicher Teppichboden) Bluesign, Certipur and GOTS (global organic textile standard) are the most important ones.¹² The most

⁹ *Synthetic fibres: Nylon, polyester, acrylic, polyolefin*. Woodhead Publishing - Series in Textiles 36. Cambridge. ISBN: 9781855735880.

¹⁰ http://susproc.jrc.ec.europa.eu/textiles/docs/Ecolabel%20textile%20AHWG2%20presentations_Day%202.pdf

¹¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1007&from=EN>

¹² <http://www.ecolabelindex.com/ecolabels/?st=category,textiles>

important worldwide quality label which is in place since more than two decades is the OEKO-TEX® label.¹³ Therefore in this report, reference will be made on a regular base to this system. Textile materials can on a voluntary base be awarded the OEKO-TEX® standard 100 label after extensive testing in the field of textile ecology. The OEKO-TEX® standard 100 is an independent testing and certification system for textile raw materials, intermediate and end products at all stages of production that was launched in 1992. This testing for harmful substances, which is internationally recognized, includes testing for (1) illegal substances, (2) legally regulated substances, (3) known harmful (but not legally regulated) chemicals and (4) parameters for health care. The requirements thus clearly exceed existing national legislation. The laboratory tests currently comprise around 100 test parameters and are based on international test standards and other recognised testing procedures. These also include for example simulation tests which take into account all possible ways by which harmful substances could be absorbed into the human body (orally, via the skin, by inhalation). The full details of the included tests and the corresponding procedures can be found online.¹⁴ For each of the compounds and health care parameters to be tested, limit parameters are defined.¹⁵ OEKO-TEX® delegates the actual testing to authorised member institutes.¹⁶ The maximum testing costs when subjecting one sample to the OEKO-TEX® testing system amounts several thousand euro.¹⁷

Very importantly, OEKO-TEX® indicates the list of compounds and parameters to be tested for, to be dynamic in nature, depending on possible new insights in the medical field.

DISCUSSION ON COMPOUNDS LISTED IN EC LIST

The compound list published online by the EC for public consultation encompasses 291 compounds. The compounds are listed as described higher in three categories. A couple of important remarks should be made related to the entire list in general and to the separate lists in particular:

General comments on lists:

- the list does not take into account the fact that textiles originating from synthetic, natural or semi-synthetic fibres involve different steps during the textile production process (see discussion further)

¹³ https://www.oeko-tex.com/en/manufacturers/concept/oeko_tex_standard_100/oeko_tex_standard_100.xhtml

¹⁴ https://www.oeko-tex.com/media/init_data/downloads/Testing%20procedures.pdf

¹⁵ https://www.oeko-tex.com/en/manufacturers/test_criteria/limit_values/limit_values.html

¹⁶ <https://www.oeko-tex.com/en/manufacturers/contacts/contacts.xhtml>

¹⁷ Info received from Centexbel

- the list does not take into account the real use of a textile

remark: *Following the OEKO-TEX® classification system, four textile classes exist including (1) textile items for babies and toddlers up to 3 years (clothing, toys, bed linen, terry cloth items, ...), (2) textiles used close to the skin (underwear, bed linen, T-shirts ...), (3) textiles used away from the skin (jackets, coats, ...) and (4) furnishing materials (curtains, table cloths, upholstery materials, ...). As concentration limits vary depending on the intended use of a textile (cfr. exposure time and frequency dependence), a separation in textile classes would have been beneficial.*

List specific comments:

(A) petroleum and coal stream (PETCO) substances

The EC table lists around 150 components including petroleum derivatives, coal derivatives, aromatic hydrocarbons and polyaromatic hydrocarbons (PAH). The petroleum derivatives represent the vast majority of all listed compounds followed by a low while equal contribution of the other three product classes. In the EC list, no references to publically available sources are included for the different inclusions. Of the listed compounds, 8 compounds (benzo(a)anthracene, benz[e]acephenanthrylene, benzo(a)pyrene, benzo(e)pyrene, benzo(j)fluoranthene , benzo(k)fluoranthene, chrysene and dibenz(a,h)anthracene) are included in the OEKO-TEX® list of compounds to be tested for under the heading PAH. These compounds are indicated in yellow in Annex III. These were identified by Oeko-Tex , to be potentially present in synthetic fibre based textile materials.

The large discrepancy in the number of compounds between both sources (EC and OEKO-TEX®) hinted to further advice from the Belgian Textile Research Centre.¹⁸ Face-to-face meeting, e-mail communication and phone conversation were applied for information exchange purposes. The below findings are the result from this

¹⁸ <http://www.centexbel.be/>

information exchange. Furthermore, various other literature sources were also consulted.^{19,20,21,22}

1) A first source leading to the possible presence of some hydrocarbons from the EC list in the final textile material might be the use of so-called spin finishes on fibres. These compounds are included during production with the aim to improve downstream handling of the fibre in the process of textile fabrication and are very diverse in chemical structure. Mineral oils are applied as one example for these purposes. Three different types of mineral oils exist: n-alkane oils, cycloalkane oils and aromatic oils. From the above listed sources, it is known that trace amounts of side products in ill refined oils may be present in the applied mineral oils. If this is the case, the mineral oil can be defined unsafe on both the toxicological and ecological level. During the information exchange, it was stated by Centexbel that the target compounds on the PETCO substances list are not thought to be present in textile materials but transferred to the textile waste streams. Whether this is also the case for all side components present in case of ill refined oil, is however uncertain. Looking at the OEKO-TEX[®] methodology, it is evident that the full list of compounds that is and might (in case of contamination) be present in the commercially available spin finishes are not considered for analysis. It should however be noted that commercially available NMR devices exist that enable quantification of the spin finish components on the final textile in a rapid and straightforward fashion.²³ Alternatives to mineral oils can be found in pharmaceutical-grade mineral oils as they contain less than 0.1 ppm of polyaromatic hydrocarbons. The main disadvantage however includes the fact that they are about three times more expensive than conventional mineral oils. Furthermore, natural oils can be a second alternative source while revealing inferior properties as compared to the mineral oils. The above example of spin finishes clearly stresses the need for (1) harmonization of various textile related products and processes and (2) the implementation of a strict quality control system along the full textile chain (for raw materials, semi-finished goods as well as processes).

2) Considering other steps in the textile production process where some of the EC listed compounds might be applied, it is evident from consulted literature data that

¹⁹ PDF report in Dutch to be downloaded from <http://emis.vito.be/nl/bbt-voor-textielveredeling>

²⁰ http://eippcb.jrc.ec.europa.eu/reference/BREF/txt_bref_0703.pdf

²¹ http://cdn.intechopen.com/pdfs/29368/InTech-Textile_finishing_industry_as_an_important_source_of_organic_pollutants.pdf

²² CONFIDENTIAL: Chemical Substances and their manner of use in the Italian textile supply chain, February 2011 - vers.1.2.

²³ https://www.bruker.com/fileadmin/user_upload/8-PDF-Docs/MagneticResonance/TD-NMR/minispec_SpinFinish_T137094.pdf

certain compounds (process chemicals) including among other aliphatic and aromatic hydrocarbons are used in the textile production process (see footnotes 19-22). Whether absolute removal of these compounds before the final textile is obtained depends on the further applied processing and purification steps and is thus textile type and even company specific. If these processes are optimized, these compounds should be present only in the textile waste streams (water and exhaust air) and not in the final textile material. The majority of the applied process chemicals are not being tested for their presence in final textile materials using OEKO-TEX[®] methodology. Centexbel however indicated during the information exchange round that test methods can be developed for virtually any compound if needed.

To those compounds the same remark applies as for the spin finishes. The raw materials (cfr. hydrocarbons) might contain contaminations and/or impurities.

This second example again stresses a strong need for harmonization in the textile industry, especially as this industry is often multi-company based. This implies that a raw material from one company (e.g. polyester) is applied as a starting material by a second company that processes the polymer (e.g. via extrusion) into fibres.

3) A third source for the potential presence of PETCO substances in the final textile materials, is specific for synthetic polymer fibres.

As these polymers are man-made²⁴, residual monomers might remain in the raw polymer material. Testing of the synthetic polymer fibres for organic pollutants is very rarely done in textile companies. Centexbel indicated that analysis of synthetic polymers is feasible in case this would be required. Finally, degradation products might originate when the polymer is subjected to certain thermal treatments during the textile production process. Raw material quality should thus be carefully monitored by a company installed quality control system of incoming goods. Control (i.e. exclusion) of thermal degradation of polymers can be guaranteed by implementing the already above hinted requirement of a harmonization of all textile related processes.

As a summary from the above discussion, the following possible sources of PETCO substances in textile articles are listed below:

- first source: application of spin finishes on fibres

composition: mineral oils are applied as one example

²⁴ Synthetic fibres are produced starting from synthetic polymers. This implies that building blocks (i.e. monomers) need to be converted through a chemical reaction (i.e. polymerization) into polymers in an industrial setting.

*n-alkane oils, cycloalkane oils and aromatic oils exist
trace amounts of side products in ill refined oils may be present
if this is the case, the mineral oil can be defined unsafe on both the
toxicological and ecological level*

*→ need for (1) harmonization of various textile related products and processes and (2) the
implementation of a strict quality control system along the full textile chain (for raw materials,
semi-finished goods as well as processes)*

*- second source: process chemicals including aliphatic and aromatic hydrocarbons
absolute removal depends on further applied processing and
purification steps and is thus textile type and even company specific
if processes are optimized, these compounds should be present only
in the textile waste streams (water and exhaust air) and not in the
final textile material*

→ need for (1) harmonization and (2) quality control implementation

*- third source: specific for synthetic polymer fibres
residual monomers might remain in the raw polymer material
degradation products might originate when the polymer is subjected to thermal
treatments*

*→ raw material quality should be carefully monitored, exclusion of thermal degradation of
polymers through harmonization of all textile related processes*

(B) “classified dyes and carcinogenic amines” list and “other substances” list

A variety of compounds which are derivatives from the PETCO list compounds are present in both lists including the plasticizing agents (phthalates, ...), benzene derivatives, ... Consideration should be given to a clear definition of each list to prevent incoherences.

OUTLINE OF ANALYTICAL TESTS

Detection of chemical compounds (organic or inorganic in nature) is a research field in itself. As textile materials come along the textile food chain in contact with a large variety of chemical compounds, adequate techniques for characterising both types of substances is thus of paramount importance. Well established techniques exist including IR spectroscopy, NMR spectroscopy, chromatography based techniques (HPLC, GPC, gas chromatography, ...), thermal analysis (TGA, DSC), spectroscopy based techniques (UV-VIS; atomic absorption spectroscopy, AAS;), ... In some cases, advanced detection can be realized by combining several techniques (e.g. HPLC-mass spectrometry).^{25, 26}

With confidence and confirmed by Centexbel and already mentioned various times in the above paragraphs of the report, it can be stated that a plethora of compounds can already be detected to date. If not yet in place, new methods can be developed. The limitation might however be situated in the total number of products that need to be detected and the complications that might arise with separation of complex mixtures of compounds. This is however a scientific problem to be tackled and is not related to the textile industry itself. It should also be noted that the development of an analysis technique for a compound takes time and is associated to development costs.

In case the outcome of the EC public consultation would hint to sample testing, a specialized institution should be consulted. In Belgium, Centexbel is very well experienced in this matter. During the discussion with them, they revealed that every year they process various requests from single companies and from the government. Selection of articles, number of samples, screening of batch-to-batch variations, preparation of samples, ... is thus expertise that is mastered and could be made available and used on request. Sample testing could among other be organized on a risk basis (childrens clothing with greater risk of exposure).²⁷

For the above mentioned points, it should again be stressed how important harmonization will be to make this endeavour a success. The European Directive on textile fibre names and related labelling and marking of the fibre composition of textile products ²⁸ should ideally form the base for that.

²⁵ Organic Structural Spectroscopy, Prentice Hall, Published 09/21/2010, ISBN-10: 0321592565

²⁶ Analytical Chemistry and Quantitative Analysis, Prentice Hall, Published: 02/09/2010, ISBN-10: 0321596943

²⁷ http://susproc.jrc.ec.europa.eu/textiles/docs/Ecolabel%20textile%20AHWG2%20presentations_Day%202.pdf

²⁸ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1007&from=EN>

CONCLUSION AND RECOMMENDATIONS

From the above discussion and overview, which is based on a variety of (publically) available sources referred to in the report, it cannot be concluded that the textiles targeted within the EC public consultation are free of all the PETCO substances listed by the EC.

The conclusion is based on the following facts:

- (1) Except from the European legislation No 1007/2011 aiming at labelling and marking of the fibre composition²⁹, only the higher mentioned voluntary schemes such as OEKO-TEX[®], Ecolabel, ... set objectives for the contents of hazardous chemicals in textile materials.
- (2) (Standard) test methods are available for a number of compounds in the context of the available quality labels. When considering for a complementary restriction on textiles, new test methods will need to be developed for the final list of target compounds.
- (3) The textile industry consists of a long supply chain and complex form of collaboration which is due to the fact that the different steps in the production process from raw material to finished textile article are typically located in different places worldwide.
- (4) Due to the large number of economical actors in the field (including large and small companies), a quality control system for incoming and outgoing products (polymers, dyes, spin finishes, solvents, ...) and/or for the applied textile processes (spinning, weaving, dyeing, finishing, ...) is not applied standardly. Furthermore, the applied textile processes present a high variety of technological complexity (automated versus manual, ...).
- (5) Various sources for the possible presence of the PETCO substances can be identified including spin finishes, process chemicals and raw material related products (residual monomers and thermal degradation products). Despite the fact that the PETCO substances are primarily of application for synthetic fibres, PETCO substances are also widely used in the various textile processes involving natural fibres.

From the PETCO list from the public consultation, a limited number of compounds were previously identified in the OEKO-TEX[®] Standard 100 lists. They include benzo(a)anthracene, benz[e]acephenanthrylene, benzo(a)pyrene, benzo(e)pyrene, benzo(j)fluoranthene, benzo(k)fluoranthene, chrysene and dibenz(a,h)anthracene. This clearly indicates that the textile industry has identified the possible presence of these substances in the textile. From the OEKO-TEX[®] Standard 100 list, we also identified a significant number of CMR compounds identified as PETCO derivatives (a part of them being already included in the “other substances” list from the public

consultation). For the other substances presented in the PETCO list of the public consultation, we cannot exclude their presence in the final textile articles. A further refining of the list should indicate the source of the substance (spin finish, process chemical, raw material, ...)

- (6) As a plethora of mainly organic compounds are used in the textile industry, the possible sources for contaminations and or side products are numerous.

The following recommendations can be made:

- (1) The growing trend of the textile market which shifts from natural to synthetic fibres requires the inclusion of the PETCO substances into the assessment. In order to ensure “identical level playing fields”, consideration of CMR substances into synthetic fibre based textile articles should be given the necessary attention.
- (2) As quality assurance is only based on voluntary schemes mentioned above and as the textile supply chain implements various levels of quality assurance, there is a clear need for harmonization of the requirements to ensure consumer protection. By increasing the level of quality assurance, the requirement for testing PETCO substances that might remain from spin finishes, process chemicals and raw material side products will lower the burden of tests to companies.
- (3) Nevertheless, additional refining of the PETCO list is required to indicate clearly the source of the compound and the targeted textile process. As various polymers used for producing textile materials require different treatments along the textile production chain, the refinement hinted to in the previous paragraph should be made textile raw material specific (cfr. polyester, polyamide, cotton, wool, ...). By obtaining these indications, only the necessary tests will have to be implemented by industry to ensure compliance.
- (4) To build upon already existing test methods and test strategies provided by the voluntary quality assurance schemes, we recommend a close collaboration between the authorities and competence centres to develop test methods to control the presence of CMR substances from the PETCO list.
- (5) Despite the need for harmonization to ensure consumer protection against CMR exposure, the development of additional voluntary schemes to enhance exchange of data between the supply chain actors would be an important asset to implement a new regulation in the field. Some Non Governmental Organization initiatives which recommend retailers to require their suppliers to ban hazardous chemicals paves the way for implementing this.
- (6) As textile materials can serve various purposes (clothes, bed linen, textile furniture, garden textile, childcare, ...) the possible level of consumer exposure should be

considered before final specification of the requirements (route of exposure, concentration limits, ...).

LIST OF ANNEXES

Annex I:	content of public EC consultation
Annex II:	classified dyes and carcinogenic amines as published by the EC
Annex III:	petroleum and coal stream (PETCO) substances as published by the EC
Annex IV:	other substances list as published by the EC
Annex V:	background info document to the public EC consultation as published by the EC

STAKEHOLDER

Centexbel has been heard as stakeholder.

MEMBERS OF THE SCIENTIFIC COMMITTEE

The members are :

Willy Baeyens; Johan Bierkens; Marie-Noëlle Blaude; Steven Broekx; Peter Dubruel; Lieve Geerts; Lode Godderis; Walter Hecq; Sébastien Moro; Guy Schroyen; Stefaan Soenen; Paul Troisfontaines; An Van Nieuwenhuysse; Jeroen Vanoirbeek; Reinhilde Weltens.

CONFLICT OF INTEREST

No member has declared any conflict of interest.

RAPPORTEUR(S)

The Scientific Committee REACH thanks the rapporteur Peter Dubruel

ADOPTION OF THE ADVICE

The Scientific Committee REACH advice was adopted by consensus by written procedure on 24/1/2016.

LEGAL FRAMEWORK OF THE ADVICE

Cooperation agreement of 17 October 2011 between the Federal State, the Flemish Region, the Walloon Region and the Brussels Capital Region concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Ministerial decree appointing the members of the Scientific Committee REACH established under Article 3, § 3 of the Cooperation Agreement of 17 October 2011 between the Federal State, the Flemish Region, the Walloon Region and the Brussels Capital Region concerning the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH)

DISCLAIMER

The Scientific Committee REACH reserves, at any time, the right to change this advice when new information and data become available after the publication of this version.

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