



TRACING PAPERS®

Scientific data on health and the environment.

2008, Number 18

First Quarter

Restricted Distribution

www.tracingpapers.org

IN THIS ISSUE:

- ◆ **Germany:** A study on plastic additives flame retardants and plasticizers in indoor environment.
- ◆ **UK:** Vinyl flooring has superior "green" credentials to most alternatives.
- ◆ **EU:** Framework Directive opportunities to reduce climate change by using energy from waste.
- ◆ **UK:** 60 are PVC frames among the 65 five "A" energy performance labels attributed by The British Fenestration Rating Council (BFRC).
- ◆ **US:** The US Green Building Council has published its final draft report on PVC which confirms that PVC performs as any other material.
- ◆ **EU:** Risk to health and the environment of the current use of lead.

FOREWORD

This newsletter aims to provide a platform for objective and scientific information on a subject often scrutinised by regulatory authorities, namely the life cycle of PVC and its applications. In this issue, some of the latest studies or reports related to the PVC life cycle are reported. We hope that this will help you to find your way in this debate.

The previous editions of the newsletter as well as this one are also available, with a convenient classification system by theme, on the website: www.tracingpapers.org..

Germany: A study on plastic additives flame retardants and plasticizers in indoor environment.

This study reveals that only a small portion of intake takes place via the air and dust paths. The data of various studies for seven phthalic esters and 8 VOCs were compared with results from human biomonitoring studies. Room air and dust were considered but data for room air include limited amount of measurements. The study was conducted at the Fraunhofer Wilhelm-Klauditz- Insitute (Germany).

Reference: M. Wenzig, E Uhde, T. Salthammer *Science of the Total Environment*, vol 339, issues 1-3, 1 March 2005, pages 19-40

UK: Vinyl flooring has superior "green" credentials to most alternatives.

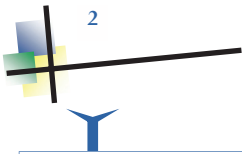
According to an article in the June 2007 issue of the UK publication, "What's new in building.", vinyl flooring has superior "green" credentials to most alternatives, including so-called natural flooring. The article notes that vinyl (PVC) flooring uses less energy in manufacturing, transportation and installation than natural flooring products – which often have to be transported from developing countries. It also "scores extremely well" in life-cycle analysis of the "in use" phase, since it has a decades-long life span and manufacturers have eliminated the need for costly chemical cleaning agents, seals and polishes. The article reports that vinyl also scores well in terms of hygiene because it is naturally waterproof and can be hot welded to form a continuous, non-porous surface which inhibits the growth of micro-organisms, bacteria, fungus, mold and mildew

Reference: <http://www.wnibi.com/Pages/Storydetail.aspx?articleId=7865>

EU: Framework Directive opportunities to reduce climate change by using energy from waste.

The EU policy "an energy policy for Europe" (sec(2007)12) assumes that a reduction of CO₂ emissions in 2020 by 20% is necessary. This would require a reduction of CO₂ emissions of more than 800 million tons of CO₂. The CO₂ reduction that can be obtained by promoting Waste-to-Energy could be an important part of this reduction and should be taken into account. Moreover, waste is a source of energy that is available within the EU and therefore reduces its dependency on imported fuels.

..../...



To obtain the CO₂ reduction it is important that the EU grants the recovery status to Waste-to-Energy plants with a high energy efficiency according to the formula proposed by the Commission in Annex II of the revision of the Waste Framework Directive. The status as a recovery installation would facilitate the building of new Waste-to-Energy plants with highly efficient energy production. The benefits in terms of CO₂ reduction have been calculated within two scenarios. Both scenarios assume an ambitious policy for recycling resulting in an increase of recycling of municipal waste from 36% in 2004 to 60% in 2020.

Reference: Waste-to-Energy and the revision of the Waste Framework Directive Opportunities to reduce climate change by using energy from waste Vereniging Afvalbedrijven, FF/KW/2006.023-final Delft, January 2007 www.FFact.nl

UK: 60 are PVC frames among the 65 five "A" energy performance labels.

The British Fenestration Rating Council (BFRC) energy performance label can help you determine how well a product will perform the functions of helping you contain and conserve heat within your building in the winter, cool it in summer and keep out the wind and resist condensation. Each rating label is specific to a manufacturer and is non-transferable. The BFRC Certificate Number relates to the specific certificate and details of the certificate can be obtained from this web site. The BFRC rating is provided for a standard window to represent typical window sizes (1.48 x 1.23 m.) which enables comparison between different products. Among the 65 five labels in the "A" category, one is attributed to an aluminium frame, 4 to timber frames and 60 to PVC frames.

Reference: Opinion The British Fenestration Rating Council (BFRC) <http://www.bfrc.org/search.aspx>

EU: The US Green Building Council has published its final draft report on PVC which confirms that PVC performs as any other material.

Its final report on PVC which confirms that PVC performs as any other material across all the human health and environmental impact categories of its research. This new report also recognises that giving a credit under the LEED system to avoid the use of PVC is not the correct approach, as it could result in higher health and ecological impacts which would diminish the credibility of LEED. The LEED (Leadership in Energy and Environmental Design) Green Building Rating System is the well known benchmark for the design, construction and operation of high performance green buildings. During the course of early LEED product development a credit was proposed to award the avoidance of PVC (vinyl) in building products, yet it has been asserted that the available science does not support such a credit.

Reference: US Green Building Council <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1633>

EU: Risk to health and the environment of the current use of lead.

The risk over time of the uses of lead currently remaining in Europe have been analysed in a study sponsored by the European Commission. Now that the use of leaded petrol is reduced to close to zero, current emissions, mainly into soil and water, are the result of the slow corrosion of lead and will continue for some time even if the application of uses such as lead plating and lead shot, the main emission sources (after leaded petrol), is stopped immediately.

Corrosion from lead plating is the main contributor to lead pollution of sewage sludge and emission into water. This is one of the reasons why sewage sludge is no longer used as a fertiliser in quite a number of EU member states. Preventive policies to clean sewage sludge should address the emissions from the use of lead as plating material in the building sector. The residual flows from waste incineration are of special concern. These are voluminous flows like fly ash and slag, and several EU member states prefer to re-use these materials in road building and other building products. This might result in a greater use of lead in the building sector. It appears that under unfavourable conditions, young children may exceed their tolerable daily intake. Therefore, for children there is a need for further information and testing.

Reference: Tukker A. et al. (2006) « Risk to health and environment of the use of lead in products in the EU », Resources Conservation and Recycling 49(2): 89-109. <http://ec.europa.eu/enterprise/chemicals/docs/studies/tno-lead.pdf>—Contact: Arnold. tukker@tno.nl



Printed on recycled paper

Should you wish to obtain a full copy of one of the above summarised reports, you may contact directly the address indicated in reference or possibly the Publisher. Similarly, if one of your colleagues would like to benefit from this restricted distribution, please contact the Publisher.

EURALIA sa rue du Luxembourg 19-21 B - 1000 Brussels BELGIUM Tel: (32 2) 506 88 20 Fax: (32 2) 506 88 25 E-mail: info@euralia.eu

© Copyright 2008 **EURALIA sa** All rights reserved. No reproduction without the publishers' agreement.

