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Editorial

Odour Emissions from Building Products – Measuring, Evaluating and Avoiding

More than 20,000 materials and products for the construction of buildings are available at the European market. Measuring and evaluating their health and ecological effects is a challenge for the producing industry as well as for the legislator.

Volatile organic compounds (VOC) and odours emitting from building products into indoor air of buildings can influence the health of the people negatively. The smells, because directly noticeable, are often a reason for discomfort and complaints of the occupants. Sources for VOC-emissions and smells are in particular products used to cover large areas like floor coverings, wall and ceiling panels, adhesives, timber products and plasters.

In concepts for the assessment of emissions from building products and furnishings into indoor air, odour issues have up to now not been considered adequately due to the absence of a reliable methodology. Besides the possible health effects, smells can encourage the users to intensive ventilation and, as a consequence, raise clearly the energy consumption in the buildings. For this reason, building products with an intensive odour are undesirable not only in low energy houses. The sensory assessment of building products and the choice of low-odour building products allow good hygienic conditions in the interior and contribute to energy saving.

Development of the methodology and practice test

In Germany, the scheme of the Committee for Health-related Evaluation of Building Products (Ausschuss zur gesundheitlichen Bewertung von Bauprodukten, AgBB) has proven useful for the assessment of the VOC-emissions from building products. The assessment scheme considers a sensory test and assessment of the odour principally as necessary, but has not yet involved this as an obligatory step, because up to now a consistent measuring method is not available. [1]

In research projects of the Federal Environment Agency, the Hermann Rietschel Institute of the University of Technology in Berlin and the Federal Institute for Materials Research and Testing developed a measuring method and standards for assessment, which are suited for the sensory assessment of building products. A test of the new methodology with floor coverings, adhesives and filling compounds has shown that now the integration of the sensory assessment is possible in the AgBB-scheme and in the basic criteria for the award of the environmental label Blue Angel. The first Blue Angel for low-emission building products that have also passed a sensory assessment is to be expected soon. Here, the Blue Angel can in particular be a pioneer for building product standards to be applied in energy-efficient buildings.

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Test standards for odours from building products

Today, low-odour building products are already considered in the criteria of modern building certification systems such as the assessment system Sustainable Construction for Federal Buildings (Bewertungssystem Nachhaltiges Bauen für Bundesgebäude) in Germany. With the new standard DIN ISO 16000-28 „Indoor air: Determination of odour emissions from building products using test chambers“ an internationally accepted measuring method will be available in 2011. The current revision of the legislation for the marketing of building products in the EU will open up the opportunity to demand a clear marking of the VOC and odour emission in the product declaration of building products for indoor use. [2]

Conclusion

The standardization and practice test of the assessment of odour emissions has almost reached its goal. Till then, building owners, building promoters and consumers should prefer voluntarily labelled low-emission “Blue Angel”-building products. The award is given to products, which have been tested according to the AgBB-scheme in approved laboratories. The emission limits for the Blue Angel are even stricter than the basic AgBB criteria, which have the intention of sorting out products that are not fit for use from the health perspective. For some product groups like floor coverings the fulfilment of the AgBB-criteria is already obligatory according to the principles for the health assessment of building products in interiors of the German Institute of Competence in Structural Engineering (Deutsches Institut für Bautechnik).

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[2] Ilvonen O, Kirchner D. Europäische Harmonisierung der Prüfnormen für die Freisetzung gefährlicher Stoffe aus Bauprodukten – auf dem Weg zu einer CE-Kennzeichnung mit Emissionsklassen. Report of the Institute of Competence in Structural Engineering. DIBt-Mitteilungen, August 2010, Volume 41, Issue 4: 151-158. (only available in German language). (http://onlinelibrary.wiley.com/doi/10.1002/dibt.v41:4/issuetoc).

Further literature

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Federal Environment Agency (2010). Pollutant Emissions and Odours. (http://www.umweltbundesamt.de/building-products/schadstoffe-gerueche.htm).

Contextual differences of odour perception

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Perception of odours relates to numerous factors, including sex, age, nasal anatomy, or cultural background. Studies show that **women outperform men in all kinds of olfactory tests** including odour thresholds, odour discrimination, or odour identification (Toulouse and Vaschide, 1899, Doty and Cameron, 2009). It can be put that way - if sex-related differences are found, women typically outperform men. It is unclear why this is so. Hormones may be important, it could also be simply related to the higher social competence found in women who, consequently, would exhibit a strong interest in the odours as they are signals of interpersonal communication, and because they relate to the social behaviors related to eating and drinking. **Aging** also has a tremendous effect on the sense of smell (von Skramlik, 1926, Landis and Hummel, 2006). The older we get, the less precise our chemical senses – on average! However, fact of the matter is that approximately 1/3 of people older than 70 years exhibit a severe olfactory loss (Doty et al., 1984). One quarter of people older than 50 exhibit a decreased sense of smell (Murphy et al., 2002)! In addition**, cultural background** shapes our sense of smell (Ayabe-Kanamura et al., 1998, Seo et al., 2010a). Selling deep-smelling cheeses to a Japanese population may be a challenge; also, eating certain Asian dishes may be difficult for Europeans.
Pregnancy constitutes an interesting example of cognitive influences on olfactory perception (Gilbert and Wysocki, 1991). Many women – especially during the first trimester of pregnancy – experience incredible smell distortions. These distortions are not related to a change in odour sensitivity (which is not different from non-pregnant women) but are probably due to a change in the central-nervous, cognitive processing of odourous stimuli (Ochsenbein-Kolble et al., 2005). Apart from these individual differences in the perception of odours it has also been shown that the **environment** has a strong impact as to how we interpret our surroundings. It has been shown that our judgement of odour qualities is significantly influenced by the opinions of people around us (Dalton et al., 1997). This goes that far as we perceive the same odour differently in relation to the **label** that comes with it (de Araujo et al., 2005). For example, the odour of isovaleric acid with cheddar cheese flavor is perceived as negative when it is labeled as “body odour”, while it is perceived as much more positive when it is labeled as “cheddar cheese”. The same applies to odourless air! Still other examples indicate that the perception of odourous changes in relation to visual, or auditory cues presented together with the odour (Seo et al., 2010b). A rose odour is probably much more pleasant when presented together with a red area, compared to a green area. Finally, the neural processing of an odour very much depends on **expectations**. When an odour is presented within a context where it may be a sign of potential danger it is processed very differently from a situation where the same odour is free of such connotations (Bulsing et al., 2010).
All in all, perception of odours appears to be dependent on numerous, mostly contextual factors, which explains why the meaning of odours varies largely between individuals. These idiosyncratic differences in perception are often deeply emotional and cannot be changed easily.

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Bulsing P, Smeets MA, Gemeinhardt C, Laverman M, Schuster B, van den Hout MA, Hummel T (Irritancy expectancy alters odor perception: Evidence from Olfactory Event Related Potential research. J Neurophysiol Sep 15. 2010 [Epub ahead of print].2010).

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Doty RL, Cameron EL (Sex differences and reproductive hormone influences on human odor perception. Physiol Behav 97:213-228.2009).

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Murphy C, Schubert CR, Cruickshanks KJ, Klein BE, Klein R, Nondahl DM (Prevalence of olfactory impairment in older adults. Jama 288:2307-2312.2002).

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Toulouse E, Vaschide N (L'asymetrie sensorielle olfactive. Compt rend de la soc de biol 51:785-787.1899).

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Sensory Evaluation of Building Materials

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Dipl-Ing. Jana Panaskova, TU Berlin, Germany; Prof. Dr.-Ing. Dirk Müller, RWTH Aachen, Germany; Dr. Oliver Jann and Dr. Wolfgang Horn, Federal Institute for Materials Research and Testing (BAM), Berlin, Germany.

Indoor air pollutants influence the health and comfort of building occupants and the energy consumption of the building. The pollutants are emitted by various sources. Besides human occupants and furnishings, building products are of particular significance as pollutants and olfactory-relevant emitters. Building materials fill large areas from which they cannot be removed easily, so it is important to investigate them before employing them in buildings.
Currently, the assessment procedure of building material testing in Germany includes test chambers in accordance with ISO 16000-9 for VOC emission tests. There are no set sensory limits for building materials yet. The first method for setting limits was designed in a project financed by the Umwelt-bundesamt (Federal Environment Agency), which finished in March 2010 and which was conducted by the Hermann Rietschel Institute at the Technical University Berlin and the Federal Institute for Materials Research and Testing in Berlin. The project deals with the questions of how to combine the emission tests of building products with the sensory evaluation, which sensory parameters should be used and what the best sensory evaluation procedure for achieving valid and accurate results is. The olfactory limit proposal for building materials for the Blue Angel label was derived from experimental investigations with human panels.
There are two main methods to determine sensory parameters of polluted air from building materials. By means of one method, a large human panel determines the acceptability. A human panel of 20-30 people uses an acceptability scale with 20 divisions ranging from -10 (clearly not acceptable) to +10

(clearly acceptable). The acceptability of an air sample is calculated as the mean value of the responses of the panel group. From the acceptability values it is possible to calculate the PD-Value (percentage dissatisfied). A category scale is used for the assessments with no absolute reference. Inherent to the acceptability assessments is a high standard deviation between the individual assessments of the panelists; therefore a large panel of subjects is required for statistically significant results. For the other, for practical reasons preferred method, a smaller human panel using a reference scale is sufficient. This panel consists of 9-15 human subjects, who determine a sensory parameter called perceived intensity (Π). The reference scale is a set of 6 acetone-air samples generated by means of a special apparatus. Each panelist compares the odour intensities of the unknown samples with the reference scale. The perceived intensity of polluted air from a building material is the mean value of the perceived intensities supplied by the panel. The next sensory parameter determined by both human panels is the hedonic tone. To determine the hedonic impression, the panel uses a hedonic scale, ranging from -4 (extremely unpleasant) to +4 (extremely pleasant).
For the sensory evaluation of building materials, the materials are placed in an emission chamber. In accordance with ISO 16000-9 for VOC emission tests, 24-l emission test chambers are employed. However, the volumetric flow in these chambers is too low for direct sensory evaluation. Thus the air is collected in a 300-litre air-sampling bag, after which the human panel evaluates the perceived intensity of the air from the bag. A CLIMPAQ (Chamber for Laboratory Investigations of Materials, Pollution and Air Quality, *Gunarsen, 1994*) is an emission chamber used for direct sensory evaluation. In the above-mentioned project, the sensory parameters acceptability, perceived intensity and hedonic tone of flooring materials and flooring adhesives in both emission chambers were determined and investigated.
The results are limits for the perceived intensity and hedonic tone. The values are given for the Blue Angel (Figure 1) and also for the scheme of the Committee for Health-related Evaluation of Building Products (Ausschuss zur gesundheitlichen Bewertung von Bauprodukten, AgBB) (Figure 2).

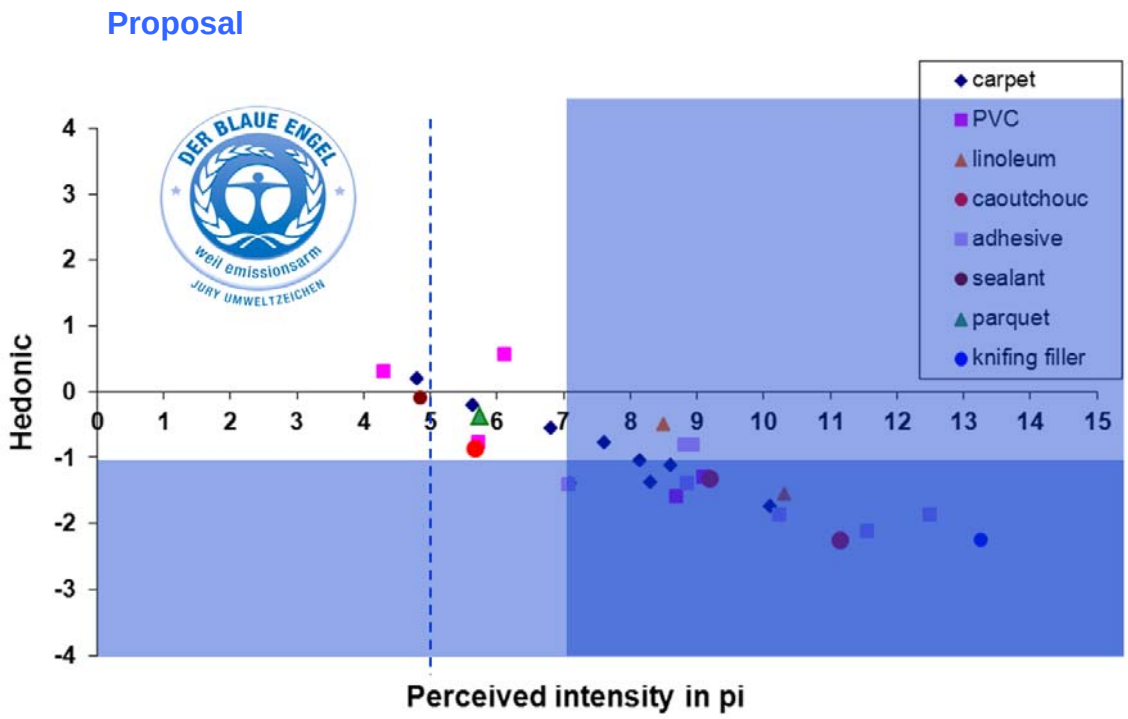

Figure 1: Limits for perceived intensity and hedonic tone of a building product necessary for being awarded the Blue Angel label.

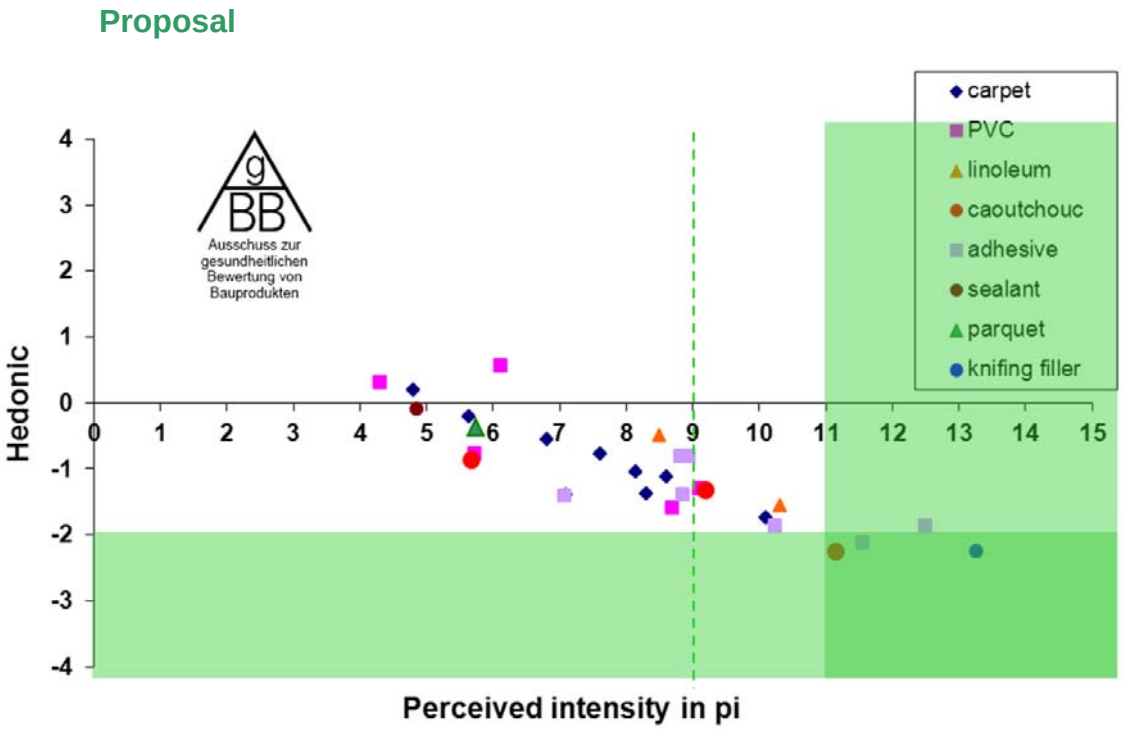

Figure 2: Limits for perceived intensity and hedonic tone of a building product for the AgBB-scheme.

Figure 1 shows the evaluation of the perceived intensity over the hedonic of a panel with a comparative scale for different building products for the test period of 28 days. The blue fields signals the areas where the products were not passing the tests. In figure 2 the same results are shown for the limits of the AgBB-scheme in green. The Blue Angel has even stricter limits for emissions from building products.

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F. Bitter, A. Dahms, J. Kasche, B. Müller, D. Müller, J. Panaskova: Rietschel – Raumklimatechnik – Band 2, Kapitel N: Sensorische Bestimmung der Luftqualität; Springer Verlag, Berlin, ISBN-13: 9783540570110, 2008.

B. Müller, et al: Labelling of building materials – A combination of emission tests with odour tests, International Conference on Healthy Buildings 2009, Syracuse, August 2009.

W. Horn, Müller, et al: Implementation of odour test methods into labelling procedures of flooring materials, International Conference on Healthy Buildings 2009, Syracuse, August 2009.

B. Müller, J. Panaskova, et al: Labelling of building materials – A combination of emission tests with odour tests, CERTECH, Emissions and odours from materials Conference, Brüssel, October 2009.

Publications and Resources

Der Blaue Engel | Healthy Living with the Blue Angel.

The Blue Angel has been the first and most well-known eco-label worldwide. Since 1978 it has set the standard for eco-friendly products and services selected by an independent jury in line with defined criteria. Now, the Blue Angel is also active in climate protection: As about eight per cent of the household's electric current consumption is spent on lightening, indoor lamps will now bear the Blue Angel, if they show a high energy efficiency, good light colour, few UV radiation and long operating life.

Contact allergens in toys: Health assessment of nickel and fragrances..

BfR calls for stricter regulations for nickel and fragrances in toys.
About 10 % of children are sensitive to nickel and about 2 % also react sensitively to fragrances. Upon repeated contact, they may develop a contact allergy, where the skin reacts to the allergenic substance(s) with redness, blistering, wound oozing, and even serious inflammation. An acquired contact allergy is not curable, only the symptoms can be treated. However, there is no limiting value for nickel in children's toys by now. Here, according to BfR, the current values for nickel in jewellery and metal trimmings in clothes should be applied.
For fragrances in toys, the use of 55 allergenic fragrances and fragrance ingredients is forbidden according to the new European Toy Safety Directive 2009/48/EC and 11 additional fragrances are subject to mandatory labelling due to their allergenic potential. However, traces of forbidden fragrances are permissible up to 100 mg / kg toy material. BfR considers this limit too high, as these fragrances should not at all be detectable in toys.

Survey on perceptions of quality of life in 75 European cities.
Since 1998, the European Commission has been working with Member States on collecting statistical data that will allow to compare the perception of quality of life in 75 cities in the EU, Croatia and Turkey In each city, 500 randomly selected citizens (aged 15 and older) - a representative profile of the wider population - were given the opportunity to express their views on the quality of life in their home city. On the whole, citizens are satisfied with the quality of a number of services (public transport, health care services and cultural facilities e.g.), but there are also some less positive aspects like air pollution and noise or the difficulty in finding a job or affordable housing, poverty and "social polarisation". The levels of satisfaction were considerably lower in many southern or eastern European cities.
Healthier Homes for a Healthier Nation.
The supplement of the September/October 2010 issue (Vol. 16(5)) of *Journal of Public Health Management & Practice* assembles a series of review articles and case studies on healthy housing and housing interventions. It presents findings from panels of subject matter experts who systematically reviewed evidence of the effectiveness of specific housing interventions in improving health or reducing exposure to hazards related to health. The panels reviewed housing interventions associated with exposure to biological and chemical agents, structural injury hazards, and neighborhood-level interventions. The findings from these reviews can be used by programs planning to adopt a healthy homes approach.

Literature

In this section we will provide a collection of recent housing and health publications from a variety of backgrounds. Literature published in German or French, respectively, is indicated with the German flag or the French flag.
If you have suggestions for interesting journals that we should screen for the literature collection, please let us know!

Table of Topics

Allergies and Respiratory Diseases

Communities and health: the case of inner-city violence and asthma.
Apter AJ.
LDI Issue Brief. 2010 Sep;16(1):1-4.

Exposure to indoor biomass fuel pollutants and asthma prevalence in Southeastern Kentucky: results from the Burden of Lung Disease (BOLD) study.
Barry AC, Mannino DM, Hopenhayn C, Bush H.
J Asthma. 2010 Sep;47(7):735-41.

Asthma in changing environments--chances and challenges of international research collaborations between South America and Europe--study protocol and description of the data acquisition of a case-control-study.
Boneberger A, Radon K, Baer J, Kausel L, Kabesch M, Haider D, Schierl R, von Kries R, Calvo M.
BMC Pulm Med. 2010 Aug 18;10:43. Free article.

How Much Evidence Is Enough? Assessing Home Asthma Research.
Brugge, D.
Journal of Public Health Management & Practice 2010Sep/Oct;16(5):S21-S23. Free article.

Do allergic families avoid keeping furry pets?
Bertelsen RJ, Carlsen KC, Granum B, Carlsen KH, Håland G, Devulapalli CS, Munthe-Kaas MC, Mowinckel P, Løvik M.
Indoor Air. 2010 Jun;20(3);187-95.

Indoor air pollution and asthma in children.
Breysse PN, Diette GB, Matsui EC, Butz AM, Hansel NN, McCormack MC.
Proc Am Thorac Soc. 2010 May;7(2):102-6. Review.

Management of severe asthma in children.
Bush A, Saglani S.
Lancet. 2010 Sep 4;376(9743):814-25. Review.

The Gene-Environment Interactions in Respiratory Diseases (GEIRD) Project.
de Marco R, Accordini S, Antonicelli L, Bellia V, Bettin MD, Bombieri C, Bonifazi F, Bugiani M, Carosso A, Casali L, Cazzoletti L, Cerveri I, Corsico AG, Ferrari M, Fois AG, Lo Cascio V, Marcon A, Marinoni A, Olivieri M, Perbellini L, Pignatti P, Pirina P, Poli A, Rolla G, Trabetti E, Verlato G, Villani S, Zanolin ME; GEIRD Study Group.
Int Arch Allergy Immunol. 2010;152(3):255-63.

Environmental epigenetics of asthma: an update.
Ho SM.
J Allergy Clin Immunol. 2010 Sep;126(3):453-65. Review.

The effects of meteorological factors and Alternaria spore concentrations on children sensitised to Alternaria.
Kilic M, Ufuk Altintas D, Yilmaz M, Güneşer Kendirli S, Bingöl Karakoc G, Taskin E, Ceter T, Pi nar NM.
Allergol Immunopathol (Madr). 2010 May-Jun;38(3):122-8.

Housing Interventions and Control of Asthma-Related Indoor Biologic Agents: A Review of the Evidence.
Krieger J, Jacobs DE, Ashley PJ, Baeder A, Chew GL, Dearborn D, Hynes HP, Miller JD, Morley R, Rabito F, Zeldin DC.
Journal of Public Health Management & Practice. 16(5):S11-S20, September/October 2010. Review. Free article.

Residential exposure to motor vehicle emissions and the risk of wheezing among 7-8 year-old schoolchildren: a city-wide cross-sectional study in Nicosia, Cyprus.
Middleton N, Yiallouros P, Nicolaou N, Kleanthous S, Pipis S, Zeniou M, Demokritou P, Koutrakis P.
Environ Health. 2010 Jun 18;9:28.

Childhood incident asthma and traffic-related air pollution at home and school.
McConnell R, Islam T, Shankardass K, Jerrett M, Lurmann F, Gilliland F, Gauderman J, Avol E, Künzli N, Yao L, Peters J, Berhane K.
Environ Health Perspect. 2010 Jul;118(7):1021-6. Free article.

Epigenetic aspects of the allergic diseases.
Pascual M, Davila I, Isidoro-Garcia M, Lorente F.
Front Biosci (Schol Ed). 2010 Jun 1;2:815-24. Review.

House dust mite avoidance measures for perennial allergic rhinitis.
Sheikh A, Hurwitz B, Nurmatov U, van Schayck CP.
Cochrane Database Syst Rev. 2010 Jul 7;7:CD001563. Review.

Multiple microbial exposures in the home may protect against asthma or allergy in childhood.
Sordillo JE, Hoffman EB, Celedón JC, Litonjua AA, Milton DK, Gold DR.
Clin Exp Allergy. 2010 Jun;40(6):902-10.

Indoor pet exposure and the outcomes of total IgE and sensitization at age 18 years.
Wegienka G, Johnson CC, Havstad S, Ownby DR, Zoratti EM.
J Allergy Clin Immunol. 2010 Aug;126(2):274-9, 279.e1-5.

Indoor Air

Secondhand Smoke Transfer and Reductions by Air Sealing and Ventilation in Multi-Unit Buildings: PFT and Nicotine Verification.
Bohac DL, Hewett MJ, Hammond SK, Grimsrud DT.
Indoor Air. 2010. Accepted manusript online.

Human Exposure to PBDEs Via House Dust Ingestion in Guangzhou, South China.
Chen L, Huang Y, Xu Z, Wen L, Peng X, Ye Z, Zhang S, Meng XZ.
Arch Environ Contam Toxicol. 2010 Jul 2.

Efficacy of photocatalytic HEPA filter on microorganism removal.
Chuaybamroong P, Chotigawin R, Supothina S, Sribenjalux P, Larpkiattaworn S, Wu CY.
Indoor Air. 2010 Jun;20(3):246-254.

Indoor and outdoor concentrations and determinants of NO_2 in a cohort of 1-year-old children in Valencia, Spain.
Esplugues A, Ballester F, Estarlich M, Llop S, Fuentes V, Mantilla E, Iñiguez C.
Indoor Air. 2010 Aug;20(4): 213–223.

Childhood lead exposure after the phaseout of leaded gasoline: an ecological study of school-age children in Kampala, Uganda.
Graber LK, Asher D, Anandaraja N, Bopp RF, Merrill K, Cullen MR, Luboga S, Trasande L.
Environ Health Perspect. 2010 Jun;118(6):884-9. Free article.

Determination of material emission signatures by PTR-MS and their correlations with odor assessments by human subjects.
Han KH, Zhang JS, Wargocki P, Knudsen HN, Guo B.
Indoor Air. 2010 Aug;20(4): 341–354.

Dust from U.K. primary school classrooms and daycare centers: the significance of dust as a pathway of exposure of young U.K. children to brominated flame retardants and polychlorinated biphenyls.
Harrad S, Goosey E, Desborough J, Abdallah MA, Roosens L, Covaci A.
Environ Sci Technol. 2010 Jun 1;44(11):4198-202.

Formaldehyde in residences: long-term indoor concentrations and influencing factors.
Hun DE, Corsi RL, Morandi MT, Siegel JA.
Indoor Air. 2010 Jun;20(3):196-203.

Polycyclic aromatic hydrocarbons (PAHs) in different indoor dusts and their potential cytotoxicity based on two human cell lines.
Kang Y, Cheung KC, Wong MH.
Environ Int. 2010 Aug;36(6):542-7.

Can a photocatalytic air purifier be used to improve the perceived air quality indoors?
Kolarik J Wargocki P.
Indoor Air. 2010 Jun;20(3):255-262.

Housing Interventions and Control of Asthma-Related Indoor Biologic Agents: A Review of the Evidence.
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Journal of Public Health Management & Practice. 16(5):S11-S20, September/October 2010.

Indoor determinants of endotoxin and dust mite exposures in Hong Kong homes with asthmatic children.
Leung TF, Wong YS, Chan IH, Yung E, Wong CK, Lam CW, Wong GW.
Int Arch Allergy Immunol. 2010;152(3):279-87.

Lead in children's blood is mainly caused by coal-fired ash after phasing out of leaded gasoline in Shanghai.
Liang F, Zhang G, Tan M, Yan C, Li X, Li Y, Li Y, Zhang Y, Shan Z.
Environ Sci Technol. 2010 Jun 15;44(12):4760-5.

Hazard Assessment of Chemical Air Contaminants Measured in Residences.
Logue JM, McKone TE, Sherman MH, Singer BC.
Indoor Air. 2010 Jul 20. Accepted manuscript online.

Significantly higher polybrominated diphenyl ether levels in young U.S. children than in their mothers.
Lunder S, Hovander L, Athanassiadis I, Bergman A.
Environ Sci Technol. 2010 Jul 1;44(13):5256-62.

Making the Transition From Lead Poisoning Prevention to Healthy Homes: A Qualitative Study.
Maring, Elisabeth F.; Singer, Barbara Jones; Shenassa, Edmond D.
Journal of Public Health Management & Practice. 16(5):S53-S60, September/October 2010. Free article.

Modelling inhalation exposure to combustion-related air pollutants in residential buildings: Application to health impact assessment.
Milner J, Vardoulakis S, Chalabi Z, Wilkinson P.
Environ Int. 2010 Sep 25. [Epub ahead of print]

Relationships of outdoor and indoor ultrafine particles at residences downwind of a major international border crossing in Buffalo, N.Y.
McAuley TR, Fisher R, Zhou X, Jaques PA, Ferro AR.
Indoor Air. 2010 Aug;20(4):298-308.

Cancer effects of formaldehyde: a proposal for an indoor air guideline value.
Nielsen GD, Wolkoff P.
Arch Toxicol. 2010 Jun;84(6):423-46. Review.

Determination of exposure to benzene, toluene and xylenes in Turkish primary school children by analysis of breath and by environmental passive sampling.
Scheepers PT, Konings J, Demirel G, Gaga EO, Anzion R, Peer PG, Dogeroglu T, Ornektekin S, van Doorn W.
Sci Total Environ. 2010 Sep 15;408(20):4863-70.

Emission factors of particulate matter and elemental carbon for crop residues and coals burned in typical household stoves in China.
Shen G, Yang Y, Wang W, Tao S, Zhu C, Min Y, Xue M, Ding J, Wang B, Wang R, Shen H, Li W, Wang X, Russell AG.
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Airborne endotoxin concentrations in homes burning biomass fuel.
Semple S, Devakumar D, Fullerton DG, Thorne PS, Metwali N, Costello A, Gordon SB, Manandhar DS, Ayres JG.
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Smoking / Environmental Tabacco Smoke

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Noise

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Event Announcements

In this section we will inform you about upcoming events with relevance to housing and health. If you know of any international event, please let us know!

Global Forum on Urbanization and Health
Date: November 15–16, 2010
Venue: Kobe, Japan
Further Information: WHO | Global Forum on Urbanization and Health

International Conference for Environmental Specimen Banks
hosted by Federal Environment Agency, Germany.
Date: November 15-17, 2010
Venue: Berlin, Germany
Further Information: International Conference for Environmental Specimen Banks Berlin

International Symposium Climate Change, Extreme Weather Events and Public Health
Date: November 29-30, 2010
Venue: Bonn, Germany
Further Information: Climate Change, Extreme Weather Events and Public Health

International Forum on "Greening Real Estate Markets"
A Multi-Stakeholder Perspective
Date: 29-30 November 2010
Venue: Dessau, Germany
Further Information: Umweltbundesamt.de

United Nations Climate Change Conference (COP16/CMP6)
Date: November 29 - December 10, 2010
Venue: Cancun, Mexico
Further Information: COP16 | CMP6

16. Kongress Armut und Gesundheit
"Verwirklichungschancen für Gesundheit"
Date: December 3-4, 2010
Venue: Berlin, Germany
Further Information: gesundheitliche-chancengleichheit : Kongress 2010

BAU 2011- World Leading Trade Fair for Architecture, Materials, Buildings
Date: January 17-22, 2010
Venue: Munich, Germany
Further Information: BAU – World's Leading Trade Fair for Architecture, Materials, Systems

Greener Homes Regional Training
Date: November 2-3, 2010
Venue: Portsmouth, USA
Date: January 25-26, 2011
Venue: Cabazon, Canada
Further Information: Greener Homes Regional Training

Third African Ministerial Meeting on Housing and Urban Development (AMCHUD III)
Date: November 22-24, 2010
Venue: Bamako, Mali
Further Information: 3rd African Ministerial Conference on Housing and Urban Development (AMCHUD 3)

Environmental Health 2011
Date: February 6-9, 2011
Venue: Salvador, Brazil
Further Information: Environmental Health 2011

Indoor Air 2011
International Society of Indoor Air Quality and Climate (ISIAQ)
Date: June 5-10, 2011
Venue: Austin, Texas, USA
Further Information: ISIAQ

10th International Congress on Noise as a Public Health Problem
Date: July 24-28, 2011
Venue: London, United Kingdom
Further Information: International Commission on the Biological Effects of Noise (ICBEN)

Air Quality Eight
Date: October 24-27, 2011
Venue: Arlington, Virginia, USA
Further Information: Air Quality VIII

19th International Congress of Biometeorology
Date: December 5-9, 2011
Venue: Auckland, New Zealand
Further Information: ICB 2011

Healthy Buildings 2012
The International Society of Indoor Air Quality and Climate
Date: July 8-12, 2012
Venue: Brisbane, Australia
Further Information: Healthy Buildings 2012 |

Message Board

In this section we will inform you about activities and projects related to housing and health that are being carried out by WHO or the WHO CC. This may relate to ongoing activities and projects, as well as invitations to participate in data collections or case study projects.

WHO work on indoor and built environments

Parma declaration endorsed

At the WHO Fifth Ministerial Conference on Environment and Health (March, 2010, Italy), WHO and member states have agreed on a declaration and a commitment to act that identifies a number of commitments in relation to built environments. The declaration and the commitment to act have now been endorsed by the Regional Committee of the WHO European Region which asks member states to implement these Parma commitments. The Parma declaration and the commitment to act request work as listed below:
• by 2020, safe water and sanitation in homes, child care centres, kindergartens, schools, health care institutions and public recreational water settings;

• by 2020, healthy and safe environments and settings of daily life to walk and cycle and undertake physical activity;
• by 2015, indoor environments free of tobacco smoke in child care facilities, kindergartens, schools and public recreational settings;
• by 2015, environments free of toxic chemicals; and
• by 2015, reduced identified health risks from carcinogens, mutagens and reproductive toxicants, including radon, ultraviolet radiation, asbestos and endocrine disruptors.
(http://www.euro.who.int/en/home/conferences/fifth-ministerial-conference-on-environment-and-health/sections/news/2010/09/new-resolution-adopted-on-environment-and-health-for-europe2)

The declaration and commitment to act can be accessed at
http://www.euro.who.int/__data/assets/pdf_file/0011/78608/E93618.pdf

Collaboration with WHO Headquarter on healthy housing guidelines

The European Centre for Environment and Health (Bonn Office) and its programme on living environments and health will collaborate with WHO Headquarter to develop policy and technical guidance on healthy housing in the coming years. A first meeting took place in WHO Headquarter in mid-October 2010, bringing together a variety of experts on housing and health from countries all over the globe. The expert group discussed the process towards healthy housing guidelines, the format of the guidelines given the challenge of variations in climate and construction standards, and the potential housing conditions to be addressed. A meeting for 2011 is planned to identify in more detail the topics to be covered and to start technical work.

Successful redesignation of the WHO Collaborating Centre on Housing and Health

The State Health Office Baden-Württemberg has been redesignated as a WHO Collaborating Centre in fall 2010 and will serve for another four years. Main tasks of the WHO CC will be the identification and assessment of trends and changes of housing conditions and their possible health risks for and effects on residents and specifically vulnerable groups. For this purpose, frequent issues of this newsletter are disseminated, housing and health data and information are compiled and disseminated and specific expertise is provided on mould testing in order to generally support the WHO work on housing and health.

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Baden-Württemberg State Health Office

WHO Collaborating Centre for Housing and Health
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