



Veille scientifique sur le thème *Santé Environnement intérieur*

2007 – 1^{er} trimestre

148 articles ont été répertoriés pendant la période du 13 décembre 2006 au 19 mars 2007.

Les articles sont classés selon les chapitres suivants :

I- SUBSTANCES

- I-1. Gaz inorganiques (radon, O₃, NO_x, CO)
- I-2. Composés Organiques Volatils et Composés Organiques Semi-Volatils
- I-3. Particules et fibres
- I-4. Biocontaminants
- I-5. Pesticides / biocides
- I-6. Métaux
- I-7. Fumée de tabac environnementale

II- LIEUX DE VIE

- II-1. Habitat privé
- II-2. Transports
- II-3. Autres lieux de vie : écoles, bureaux, espaces de loisirs, lieux publics...
- II-4. Ventilation et systèmes
- II-5. Modélisation
- II-6. Relations air intérieur - air extérieur

III- EFFETS SANITAIRES

- III-1. Effets chez l'animal
- III-2. Effets chez l'homme
- III-3. Populations sensibles

IV- EVALUATION DES RISQUES

- IV-1. Expologie : mesure de l'exposition et ses outils (indicateurs biologiques, budgets espace-temps)
- IV-2. Evaluation des risques

V- GESTION / REMEDIATION

VI- ARTICLES DIVERS

Chaque article, à l'exception des articles de synthèse qui sont compilés en fin de document, n'apparaît que dans un seul chapitre. Le lecteur est dès lors invité à compléter sa consultation d'un chapitre particulier par une recherche par mot-clé.

Le lecteur est invité à se reporter à la note relative à la veille scientifique pour la liste des revues et bases de recherche bibliographique consultées dans le cadre de la veille scientifique menée par le réseau RSEIN.

I- SUBSTANCES

I-1. Gaz inorganiques

- **Radon et radiations**

1. Ademola, J. A. and I. P. Farai (2006). "Gamma activity and radiation dose in concrete building blocks used for construction of dwellings in Jos, Nigeria." *Radiation Protection Dosimetry* 121(4): 395-398.
2. Pilkyte, L., D. Butkus, et al. (2006). "Assessment of external dose indoors in Lithuania." *Radiation Protection Dosimetry* 121(2): 140-147.
3. Barros-Dios, J. M., A. Ruano-Ravina, et al. (2007). "Factors underlying residential radon concentration: Results from Galicia, Spain." *Environmental Research* 103(2): 185-190.
4. Denman, A. R., R. G. M. Crockett, et al. (2007). "The value of Seasonal Correction Factors in assessing the health risk from domestic radon- A case study in Northamptonshire, UK." *Environment International* 33(1): 34-44.
5. Proctor, L. A. (2006). "A study of indoor Rn-220 and Rn-222 decay product concentrations in the UK." *Radiation Protection Dosimetry* 121(2): 175-178.
6. Al-Azmi, D. (2006). "Towards the use of small amounts of activated charcoal along with well-type NaI(Tl) detector for indoor radon measurements." *Radiation Protection Dosimetry* 121(4): 413-419.
7. Al-Jarallah, M. I. and R. Fazal ur (2006). "Indoor radon concentration measurement in the dwellings of Al-Jauf region of Saudi Arabia." *Radiation Protection Dosimetry* 121(3): 293-296.
8. Quirino, L. L., J. M. Soriano, et al. (2007). "Indoor Rn-222 survey in Zacatecas State, Mexico." *Applied Radiation and Isotopes* 65(3): 371-374.

I-2. COV, CO Semi-Volatils

- **COV/Aldéhydes**

9. Tao, S., Y. N. Liu, et al. (2007). "Calibration of a passive sampler for both gaseous and particulate phase polycyclic aromatic hydrocarbons." *Environmental Science & Technology* 41(2): 568-573.

ARTICLE DE SYNTHÈSE

10. Partyka, M., B. Zabiegala, et al. (2007). "Application of passive samplers in monitoring of organic constituents of air." *Critical Reviews in Analytical Chemistry* 37(1): 51-78.

- **Semi-volatils**

11. Hazrati, S. and S. Harrad (2006). "Causes of variability in concentrations of polychlorinated biphenyls and polybrominated diphenyl ethers in indoor air." *Environmental Science & Technology* 40(24): 7584-7589.
12. Regueiro, J., M. Llompart, et al. (2006). "Determination of polybrominated diphenyl ethers in domestic dust by microwave-assisted solvent extraction and gas chromatography-tandem mass spectrometry." *Journal of Chromatography A* 1137(1): 1-7.
13. Saito, I., A. Onuki, et al. (2007). "Indoor organophosphate and polybrominated flame retardants in Tokyo." *Indoor Air* 17(1): 28-36.
14. Tan, J., S. M. Cheng, et al. (2007). "Polybrominated diphenyl ethers in house dust in Singapore." *Chemosphere* 66(6): 985-992.

15. Canosa, P., I. Rodriguez, et al. (2007). "Determination of parabens and triclosan in indoor dust using matrix solid-phase dispersion and gas chromatography with tandem mass spectrometry." *Analytical Chemistry* 79(4): 1675-1681.
16. Suzuki, G., H. Takigami, et al. (2007). "Dioxin-like and transthyretin-binding compounds in indoor dusts collected from Japan: Average daily dose and possible implications for children." *Environmental Science & Technology* 41(4): 1487-1493.

- **Réactions chimiques**

17. Sarwar, G. and R. Corsi (2007). "The effects of ozone/limonene reactions on indoor secondary organic aerosols." *Atmospheric Environment* 41(5): 959-973.
18. Flemmer, M. M., J. E. Ham, et al. (2007). "Field and laboratory emission cell automation and control system for investigating surface chemistry reactions - art. no. 014101." *Review of Scientific Instruments* 78(1): 14101-14101.
19. Vartiainen, E., M. Kulmala, et al. (2006). "Formation and growth of indoor air aerosol particles as a result of D-limonene oxidation." *Atmospheric Environment* 40(40): 7882-7892.
20. Forester, C. D., J. E. Ham, et al. (2007). "Geraniol (2,6-dimethyl-2,6-octadien-8-ol) reactions with ozone and OH radical: Rate constants and gas-phase products." *Atmospheric Environment* 41(6): 1188-1199.

- **Émissions des matériaux et produits**

21. Schripp, T., B. Nachtwey, et al. (2007). "A microscale device for measuring emissions from materials for indoor use." *Analytical and Bioanalytical Chemistry* 387(5): 1907-1919.
22. Yang, C. R., T. C. Lin, et al. (2006). "Correlation between calcium carbonate content and emission characteristics of incense." *Journal of the Air & Waste Management Association* 56(12): 1726-1732.
23. Yang, C. R., T. C. Lin, et al. (2007). "Particle size distribution and PAH concentrations of incense smoke in a combustion chamber." *Environmental Pollution* 145(2): 606-615.

I-3. Particules et fibres

24. Kagi, N., S. Fujii, et al. (2007). "Indoor air quality for chemical and ultrafine particle contaminants from printers." *Building and Environment* 42(5): 1949-1954.
25. Srivastava, A. and V. K. Jain (2007). "A study to characterize the suspended particulate matter in an indoor environment in Delhi, India." *Building and Environment* 42(5): 2046-2052.
26. Cowen KA, Ollison WM, Continuous monitoring of particle emissions during showering, *JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION* 56 (12): 1662-1668 DEC 2006

- **Poussières de maison**

27. Ashley, K., G. T. Applegate, et al. (2007). "Evaluation of a standardized micro-vacuum sampling method for collection of surface dust." *Journal of Occupational and Environmental Hygiene* 4(3): 215-223.

I-4. Biocontaminants

28. Antens, C. J. M., M. Oldenwening, et al. (2006). "Repeated measurements of mite and pet allergen levels in house dust over a time period of 8 years." *Clinical and Experimental Allergy* 36(12): 1525-1531.
29. Bloom, E., K. Bal, et al. (2007). "Optimizing a GC-MS method for screening of *Stachybotrys* mycotoxins in indoor environments." *Journal of Environmental Monitoring* 9(2): 151-156.

30. Charpin-Kadouch, C., G. Maurel, et al. (2006). "Mycotoxin identification in moldy dwellings." *Journal of Applied Toxicology* 26(6): 475-479.
31. Chew, G. L., J. Wilson, et al. (2006). "Mold and endotoxin levels in the aftermath of Hurricane Katrina: A pilot project of homes in New Orleans undergoing renovation." *Environmental Health Perspectives* 114(12): 1883-1889.
32. de Ana, S. G., J. M. Torres-Rodriguez, et al. (2006). "Seasonal distribution of *Alternaria*, *Aspergillus*, *Cladosporium* and *Penicillium* species isolated in homes of fungal allergic patients." *Journal of Investigational Allergology and Clinical Immunology* 16(6): 357-363.
33. Earle, C. D., E. M. King, et al. (2007). "High-throughput fluorescent multiplex array for indoor allergen exposure assessment." *Journal of Allergy and Clinical Immunology* 119(2): 428-433.
34. Jason K. Sercombe, Damien Liu-Brennan, Simon M. Causer and Euan R. Tovey ; The vertical distribution of house dust mite allergen in carpet and the effect of dry vacuum cleaning ; *International Journal of Hygiene and Environmental Health*, Volume 210, Issue 1 , 13 February 2007, Pages 43-50
35. Giovannangelo, M., U. Gehring, et al. (2007). "Levels and determinants of beta(1 -> 3)-glucans and fungal extracellular polysaccharides in house dust of (pre-)schoolchildren in three European countries." *Environment International* 33(1): 9-16.
36. Giovannangelo, M., U. Gehring, et al. (2007). "Determinants of house dust endotoxin in three European countries - the AIRALLERG study." *Indoor Air* 17(1): 70-79.
37. Millon, L., G. Reboux, et al. (2006). "Quantitative measurement of *Stachybotrys chartarum* using real-time PCR in indoor building, agricultural and hospital environments." *Journal De Mycologie Medicale* 16(4): 183-188.
38. Nakazawa, T., S. M. Satinover, et al. (2007). "Asian ladybugs (*Harmonia axyridis*): A new seasonal indoor allergen." *Journal of Allergy and Clinical Immunology* 119(2): 421-427.
39. Hjelmroos-Koski, M. K., J. M. Macher, et al. (2006). "Considerations in the grouping of plant and fungal taxa for an epidemiologic study." *Grana* 45(4): 261-287.
40. Cho, S. H., T. Reponen, et al. (2006). "The effect of home characteristics on dust antigen concentrations and loads in homes." *Science of the Total Environment* 371(1-3): 31-43.

ARTICLE DE SYNTHÈSE

41. Gutarowska, B. and M. Piotrowska (2007). "Methods of mycological analysis in buildings." *Building and Environment* 42(4): 1843-1850.

ARTICLE DE SYNTHÈSE

42. van Ree, R. (2007). "Indoor allergens: Relevance of major allergen measurements and standardization." *Journal of Allergy and Clinical Immunology* 119(2): 270-277.

I-5. Pesticides

Pas d'article

I-6. Métaux lourds

43. Rieuwerts, J. S., P. Searle, et al. (2006). "Bioaccessible arsenic in the home environment in southwest England." *Science of the Total Environment* 371(1-3): 89-98.
44. Turner, A. and L. Simmonds (2006). "Elemental concentrations and metal bioaccessibility in UK household dust." *Science of the Total Environment* 371(1-3): 74-81.
45. Jonathan Wilson, Sherry Dixon, Warren Galke and Patricia McLaine ; An investigation of dust lead sampling locations and children's blood lead levels ; *J Expo Sci Environ Epidemiol* 17: 2-12

I-7. Fumée de tabac environnementale

46. Lu, H. and L. Z. Zhu (2007). "Pollution patterns of polycyclic aromatic hydrocarbons in tobacco smoke." *Journal of Hazardous Materials* 139(2): 193-198.

II- LIEUX DE VIE

II-1. Logement

47. Bex, V., S. Barra, et al. (2006). "Housing environmental audits: the experience of the hygiene laboratory of Paris city." *Journal De Mycologie Medicale* 16(4): 197-203.
48. Wong, L. T. and K. W. Mui (2007). "Evaluation on four sampling schemes for assessing indoor air quality." *Building and Environment* 42(3): 1119-1125.

II-2. Transports

49. Cheng, X. Y., Z. C. Tan, et al. (2006). "Air quality in a commercial truck cabin." *Transportation Research Part D-Transport and Environment* 11(6): 389-395.

II-3. Autres lieux de vie

ARTICLE DE SYNTHÈSE

50. Fromme, H. (2006). "Particulate matter in indoor environments - Exposure situation in residences, schools, pubs, and related recreational spaces." *Gesundheitswesen* 68(11): 714-723.

- **Ecoles**

51. Fromme, H., D. Twardella, et al. (2007). "Particulate matter in the indoor air of classrooms - exploratory results from Munich and surrounding area." *Atmospheric Environment* 41(4): 854-866.
52. Oldfield K, Siebers R, Crane J. ; Endotoxin and indoor allergen levels in kindergartens and daycare centres in Wellington, New Zealand *N Z Med J.* 2007 Jan 26;120(1248):U2400. Links
53. Bahtijari, M., P. Stegnar, et al. (2006). "Indoor air radon concentration in schools in Prizren, Kosovo." *Radiation Protection Dosimetry* 121(4): 469-473.
54. Synnott, H., P. A. Colgan, et al. (2007). "The effectiveness of radon remediation in Irish schools." *Health Physics* 92(1): 50-57.

- **Bâtiments publics**

55. Kim, K. Y. and C. N. Kim (2007). "Airborne microbiological characteristics in public buildings of Korea." *Building and Environment* 42(5): 2188-2196.
56. Worobiec, A., L. Samek, et al. (2006). "Study of the winter and summer changes of the air composition in the church of Szalowa, Poland, related to conservation." *Microchimica Acta* 156(3-4): 253-261.

- **Hôpitaux**

57. Vaupotic, J. and I. Kobal (2006). "Radon survey and exposure assessment in hospitals." *Radiation Protection Dosimetry* 121(2): 158-167.
58. Vichard, P., D. Talon, et al. (2006). "Air cleanliness in operating rooms : on-site controls and biological testing." *Bulletin De L Academie Nationale De Medecine* 190(6): 1189-1207.

II-4. Ventilation et systèmes

59. Zhang, Q. and G. Q. Zhang (2007). "Study on TVOCs concentration distribution and evaluation of inhaled air quality under a re-circulated ventilation system." *Building and Environment* 42(3): 1110-1118.
60. Jorgensen, R. B. (2007). "Sorption of VOCs on material surfaces as the deciding factor when choosing a ventilation strategy." *Building and Environment* 42(5): 1913-1920.

ARTICLE DE SYNTHÈSE

61. Li, Y., G. M. Leung, et al. (2007). "Role of ventilation in airborne transmission of infectious agents in the built environment - a multidisciplinary systematic review." *Indoor Air* 17(1): 2-18.

II-5. Modélisation

- **Modélisation de l'effet de la ventilation et du comportement des particules**

62. Chang, T. J., H. M. Kao, et al. (2007). "Numerical study of the effect of ventilation pattern on coarse, fine, and very fine particulate matter removal in partitioned indoor environment." *Journal of the Air & Waste Management Association* 57(2): 179-189.
63. Lai, A. C. K. and F. Z. Chen (2006). "Modeling particle deposition and distribution in a chamber with a two-equation Reynolds-averaged Navier-Stokes model." *Journal of Aerosol Science* 37(12): 1770-1780.
64. Sohn, M. D., M. G. Apte, et al. (2007). "Predicting size-resolved particle behavior in multizone buildings." *Atmospheric Environment* 41(7): 1473-1482.
65. Zhao, B. and P. Guan (2007). "Modeling particle dispersion in personalized ventilated room." *Building and Environment* 42(3): 1099-1109.
66. Lin, Z., T. T. Chow, et al. (2007). "Effect of door opening on the performance of displacement ventilation in a typical office building." *Building and Environment* 42(3): 1335-1347.

- **Modélisation des réactions des polluants de l'air intérieur**

67. Carslaw, N. (2007). "A new detailed chemical model for indoor air pollution." *Atmospheric Environment* 41(6): 1164-1179.

- **Modélisation des concentrations et expositions**

68. Melikov, A. and J. Kaczmarczyk (2007). "Influence of geometry of thermal manikins on concentration distribution and personal exposure." *Indoor Air* 17(1): 50-59.
69. Nikolopoulos, D. and E. Vogiannis (2007). "Modelling radon progeny concentration variations in thermal spas." *Science of the Total Environment* 373(1): 82-93.
70. Stewart J, Ren ZG, COwZ - A subzonal indoor airflow, temperature and contaminant dispersion model, *BUILDING AND ENVIRONMENT* 41 (12): 1631-1648 DEC 2006

- **Modélisation des transferts air extérieur > air intérieur**

71. Jeng, C. J., W. B. Kindzierski, et al. (2006). "Particle penetration through rectangular-shaped cracks." *Journal of Environmental Engineering and Science* 5: S111-S119.
72. Jeng, C. J., W. B. Kindzierski, et al. (2007). "Particle penetration through inclined and L-shaped cracks." *Journal of Environmental Engineering-Asce* 133(3): 331-339.

II-6. Air extérieur – Air intérieur

73. Akyuz, M. (2007). "Simultaneous determination of aliphatic and aromatic amines in indoor and outdoor air samples by gas chromatography-mass spectrometry." *Talanta* 71(1): 486-492.
74. Huang, H., S. C. Lee, et al. (2007). "Characteristics of indoor/outdoor PM2.5 and elemental components in generic urban, roadside and industrial plant areas of Guangzhou City, China." *Journal of Environmental Sciences-China* 19(1): 35-43.

- **Influence d'une activité extérieure**

75. Beck, J. P., A. Heutelbeck, et al. (2007). "Volatile organic compounds in dwelling houses and stables of dairy and cattle farms in Northern Germany." *Science of the Total Environment* 372(2-3): 440-454.
76. Kindzierski, W. B. and H. K. S. Ranganathan (2006). "Indoor and outdoor SO₂ in a community near oil sand extraction and production facilities in northern Alberta." *Journal of Environmental Engineering and Science* 5: S121-S129.

III- EFFETS SANITAIRES

III-1. Effets chez l'animal - Toxicologie expérimentale

77. Johannessen, L. N., A. M. Nilsen, et al. (2007). "Mycotoxin-induced depletion of intracellular glutathione and altered cytokine production in the human alveolar epithelial cell line A549." *Toxicology Letters* 168(2): 103-112.
78. Pieckova, E., M. Hurbankova, et al. (2006). "Pulmonary cytotoxicity of secondary metabolites of *Stachybotrys chartarum* (Ehrenb.) Hughes." *Annals of Agricultural and Environmental Medicine* 13(2): 259-262.

III-2. Effets chez l'homme

- COV/Aldéhydes

79. Ezratty, V., M. Bonay, et al. (2007). "Effect of formaldehyde on asthmatic response to inhaled allergen challenge." *Environmental Health Perspectives* 115(2): 210-214.

- Pesticides

80. Cooney, MA (Cooney, Maureen A.), Daniels, JL (Daniels, Julie L.), Ross, JA (Ross, Julie A.), Breslow, NE (Breslow, Norman E.), Pollock, BH (Pollock, Brad H.), Olshan, AF (Olshan, Andrew F.) ; Household pesticides and the risk of Wilms tumor ; ENVIRONMENTAL HEALTH PERSPECTIVES 115 (1): 134-137 JAN 2007

- Biocontaminants

81. Bakke, J. V., D. Norback, et al. (2007). "Pet keeping and dampness in the dwelling: associations with airway infections, symptoms, and physiological signs from the ocular and nasal mucosa." *Indoor Air* 17(1): 60-69.
82. Benthida, R., H. Ghezzi, et al. (2007). "Sensitization to *Aspergillus fumigatus* and functional outcome of asthma." *Revue Des Maladies Respiratoires* 24(1): 23-31.
83. Elliott, L., S. J. Arbes, et al. (2007). "Dust weight and asthma prevalence in the National Survey of Lead and Allergens in Housing (NSLAH)." *Environmental Health Perspectives* 115(2): 215-220.
84. Bussmann, C., A. Bockenhoff, et al. (2006). "Does allergen-specific immunotherapy represent a therapeutic option for patients with atopic dermatitis?" *Journal of Allergy and Clinical Immunology* 118(6): 1292-1298.
85. Ceylan, E., A. Ozkutuk, et al. (2006). "Fungi and indoor conditions in asthma patients." *Journal of Asthma* 43(10): 789-794.

ARTICLE DE SYNTHÈSE

86. Sandrine Boutin-Forzano, Carmel Kadouch-Charpin, Yassine Hammou, Marion Gouitaa, Alain Botta, Henri Dumon, Denis Charpin, Moisissures domestiques, mycotoxines et risques sanitaires, Environnement, Risques & Santé. Volume 5, Numéro 5, 383-9, Septembre-Octobre 2006

ARTICLE DE SYNTHÈSE

87. Platts-Mills, T. A. E. (2007). "The role of indoor allergens in chronic allergic disease." *Journal of Allergy and Clinical Immunology* 119(2): 297-302.

ARTICLE DE SYNTHÈSE

88. Chapman, M. D. (2006). "Challenges associated with indoor moulds: Health effects, immune response and exposure assessment." *Medical Mycology* 44: S29-S32.

ARTICLE DE SYNTHÈSE

89. Green, B. J., E. R. Tovey, et al. (2006). "Airborne fungal fragments and allergenicity." *Medical Mycology* 44: S245-S255.

ARTICLE DE SYNTHÈSE

90. Gore, J. C. and C. Schal (2007). "Cockroach allergen biology and mitigation in the indoor environment." *Annual Review of Entomology* 52: 439-463.

- **Humidité**

91. Wieslander, G., D. Norback, et al. (2007). "Changes of symptoms, tear film stability and eosinophilic cationic protein in nasal lavage fluid after re-exposure to a damp office building with a history of flooding." *Indoor Air* 17(1): 19-27.

- **SBS**

92. Shoemaker, R. C. and D. E. House (2006). "Sick building syndrome (SBS) and exposure to water-damaged buildings: Time series study, clinical trial and mechanisms." *Neurotoxicology and Teratology* 28(5): 573-588.

93. Chau, C. K., W. K. Hui, et al. (2007). "Evaluation of health benefits for improving indoor air quality in workplace." *Environment International* 33(2): 186-198.

- **Effets de la climatisation**

94. Graudeniz, G. S., R. G. Landgraf, et al. (2006). "The role of allergic rhinitis in nasal responses to sudden temperature changes." *Journal of Allergy and Clinical Immunology* 118(5): 1126-1132.

- **Effets des piscines et spas**

95. Bowen, A. B., J. C. Kile, et al. (2007). "Outbreaks of short-incubation ocular and respiratory illness following exposure to indoor swimming pools." *Environmental Health Perspectives* 115(2): 267-271.

96. Burnsed, L. J., L. A. Hicks, et al. (2007). "A large, travel-associated outbreak of legionellosis among hotel guests: Utility of the urine antigen assay in confirming Pontiac fever." *Clinical Infectious Diseases* 44(2): 222-228.

ARTICLE DE SYNTHÈSE

97. Sood, A., R. Sreedhar, et al. (2007). "Hypersensitivity pneumonitis-like granulomatous lung disease with nontuberculous mycobacteria from exposure to hot water aerosols." *Environmental Health Perspectives* 115(2): 262-266.

ARTICLE DE SYNTHÈSE

98. Zwiener, C., S. D. Richardson, et al. (2007). "Drowning in disinfection byproducts? Assessing swimming pool water." *Environmental Science & Technology* 41(2): 363-372.

- **Effets des combustions (tabac, cuisson...)**

ARTICLE DE SYNTHÈSE

99. Lin, H. H., M. Ezzati, et al. (2007). "Tobacco smoke, indoor air pollution and tuberculosis: A systematic review and meta-analysis - art. no. e20." *Plos Medicine* 4(1): 173-189.

III-3. Populations sensibles

- **Enfants**

100. Pekkanen, A., Hyvärinen, U., Haverinen-Shaughnessy, M., Korppi, T., Putus, and A. Nevalainen ; Moisture damage and childhood asthma: a population-based incident case-control study ; *Eur Respir J* 2007 29: 509-515

101. Campo, P., H. K. Kalra, et al. (2006). "Influence of dog ownership and high endotoxin on wheezing and atopy during infancy." *Journal of Allergy and Clinical Immunology* 118(6): 1271-1278.
102. McConnell, R., K. Berhane, et al. (2006). "Dog ownership enhances symptomatic responses to air pollution in children with asthma." *Environmental Health Perspectives* 114(12): 1910-1915.
103. Nickmilder, M., S. Carbonnelle, et al. (2007). "House cleaning with chlorine bleach and the risks of allergic and respiratory diseases in children." *Pediatric Allergy and Immunology* 18(1): 27-35.
104. Nickmilder, M. and A. Bernard (2007). "Ecological association between childhood asthma and availability of indoor chlorinated swimming pools in Europe." *Occupational and Environmental Medicine* 64(1): 37-46.
105. Duramad, P., K. Harley, et al. (2006). "Early environmental exposures and intracellular Th1/Th2 cytokine profiles in 24-month-old children living in an agricultural area." *Environmental Health Perspectives* 114(12): 1916-1922.
106. Norback, D., Z. H. Zhao, et al. (2007). "Asthma, eczema, and reports on pollen and cat allergy among pupils in Shanxi province, China." *International Archives of Occupational and Environmental Health* 80(3): 207-216.

ARTICLE DE SYNTHÈSE

107. Mazur, L. J. and J. Kim (2006). "Spectrum of noninfectious health effects from molds." *Pediatrics* 118(6): E1909-E1926.

IV- EVALUATION DES RISQUES

IV-1 Expologie

108. Wilson, N. K., J. C. Chuang, et al. (2007). "An observational study of the potential exposures of preschool children to pentachlorophenol, bisphenol-A, and nonylphenol at home and daycare." *Environmental Research* 103(1): 9-20.
109. Gustafson, P., L. Barregard, et al. (2007). "The impact of domestic wood burning on personal, indoor and outdoor levels of 1,3-butadiene, benzene, formaldehyde and acetaldehyde." *Journal of Environmental Monitoring* 9(1): 23-32.
110. Invernizzi, G., A. Ruprecht, et al. (2007). "Residual tobacco smoke: measurement of its washout time in the lung and of its contribution to environmental tobacco smoke." *Tobacco Control* 16(1): 29-33.
111. Shlychkov, V. A., A. I. Borodulin, et al. (2007). "Personal sampler for monitoring of viable viruses; Modeling of indoor sampling conditions." *Aerosol Science and Technology* 41(2): 169-178.

- **Biomarqueurs**

112. Curwin, B. D., M. J. Hein, et al. (2007). "Urinary pesticide concentrations among children, mothers and fathers living in farm and non-farm households in Iowa." *Annals of Occupational Hygiene* 51(1): 53-65.
113. Lee, C. H., M. Kamijima, et al. (2007). "8-hydroxydeoxyguanosine levels in human leukocyte and urine according to exposure to organophosphorus pesticides and paraoxonase 1 genotype." *International Archives of Occupational and Environmental Health* 80(3): 217-227.
114. Manini, P., G. De Palma, et al. (2006). "Environmental and biological monitoring of benzene exposure in a cohort of Italian taxi drivers." *Toxicology Letters* 167(2): 142-151.
115. Karlsson, M., A. Julander, et al. (2007). "Levels of brominated flame retardants in blood in relation to levels in household air and dust." *Environment International* 33(1): 62-69.
116. Sercombe, J. K., B. J. Green, et al. (2006). "Recovery of germinating fungal conidia from the nasal cavity after environmental exposure." *Aerobiologia* 22(4): 295-304.
117. Gehring U, Leaderer BP, Heinrich J, Oldenwening M, Giovannangelo MECA, Nordling E, Merkel G, Hoek G, Bellander T, Brunekreef B ; Comparison of parental reports of smoking and residential air nicotine concentrations in children ; OCCUPATIONAL AND ENVIRONMENTAL MEDICINE 63 (11): 766-772 NOV 2006

- **Approche globale des expositions tenant compte de l'air extérieur**

118. Baklanov, A., O. Hanninen, et al. (2007). "Integrated systems for forecasting urban meteorology, air pollution and population exposure." *Atmospheric Chemistry and Physics* 7: 855-874.

IV-2 Evaluation des risques

Pas d'article

V- GESTION

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