

References: PCBs in Schools

- Ampleman, M. D., Martinez, A., DeWall, J., Rawn, D. F., Hornbuckle, K. C., & Thorne, P. S. (2015). Inhalation and dietary exposure to PCBs in urban and rural cohorts via congener-specific measurements. *Environ Sci Technol*, *49*(2), 1156-1164. doi:10.1021/es5048039
- Brown, K. W., Minegishi, T., Cummiskey, C. C., Fragala, M. A., Hartman, R., & MacIntosh, D. L. (2016). PCB remediation in schools: a review. *Environ Sci Pollut Res Int*, *23*(3), 1986-1997. doi:10.1007/s11356-015-4689-y
- Carpenter, D. O. (2006). Polychlorinated biphenyls (PCBs): routes of exposure and effects on human health. *Rev Environ Health*, *21*(1), 1-23.
- Carpenter, D. O. (2015). Exposure to and health effects of volatile PCBs. *Rev Environ Health*, *30*(2), 81-92. doi:10.1515/reveh-2014-0074
- Davies, H., & Delistraty, D. (2016). Evaluation of PCB sources and releases for identifying priorities to reduce PCBs in Washington State (USA). *Environ Sci Pollut Res Int*, *23*(3), 2033-2041. doi:10.1007/s11356-015-4828-5
- DellaValle, C. T., Wheeler, D. C., Deziel, N. C., De Roos, A. J., Cerhan, J. R., Cozen, W., . . . Ward, M. H. (2013). Environmental determinants of polychlorinated biphenyl concentrations in residential carpet dust. *Environ Sci Technol*, *47*(18), 10405-10414. doi:10.1021/es401447w
- Egsmose, E. L., Brauner, E. V., Frederiksen, M., Morck, T. A., Siersma, V. D., Hansen, P. W., . . . Knudsen, L. E. (2016). Associations between plasma concentrations of PCB 28 and possible indoor exposure sources in Danish school children and mothers. *Environ Int*, *87*, 13-19. doi:10.1016/j.envint.2015.11.005
- Gabrio, T., Piechotowski, I., Wallenhorst, T., Klett, M., Cott, L., Friebel, P., . . . Schwenk, M. (2000). PCB-blood levels in teachers, working in PCB-contaminated schools. *Chemosphere*, *40*(9-11), 1055-1062.
- Han, L., et al. (2016). In utero exposure to polychlorinated biphenyls is associated with decreased fecundability in daughters of Michigan female fish eaters: a cohort study. *Environ Health* **15**(1): 92.
- Herrick, R. F. (2010). PCBs in school-persistent chemicals, persistent problems. *New Solut*, *20*(1), 115-126. doi:10.2190/NS.20.1.h
- Herrick, R. F., Lefkowitz, D. J., & Weymouth, G. A. (2007). Soil contamination from PCB-containing buildings. *Environ Health Perspect*, *115*(2), 173-175. doi:10.1289/ehp.9646
- Herrick, R. F., McClean, M. D., Meeker, J. D., Baxter, L. K., & Weymouth, G. A. (2004). An unrecognized source of PCB contamination in schools and other buildings. *Environ Health Perspect*, *112*(10), 1051-1053.
- Herrick, R. F., Meeker, J. D., & Altshul, L. (2011). Serum PCB levels and congener profiles among teachers in PCB-containing schools: a pilot study. *Environ Health*, *10*, 56. doi:10.1186/1476-069x-10-56



- Herrick, R. F., Stewart, J. H., & Allen, J. G. (2016). Review of PCBs in US schools: a brief history, an estimate of the number of impacted schools, and an approach for evaluating indoor air samples. *Environ Sci Pollut Res Int*, 23(3), 1975-1985. doi:10.1007/s11356-015-4574-8
- Hu, D., & Hornbuckle, K. C. (2010). Inadvertent Polychlorinated Biphenyls in Commercial Paint Pigments†. *Environ Sci Technol*, 44(8), 2822-2827. doi:10.1021/es902413k
- Hunt, G., Stegeman, J., & Robertson, L. (2016). PCBs: exposures, effects, remediation, and regulation with special emphasis on PCBs in schools. *Environ Sci Pollut Res Int*, 23(3), 1971-1974. doi:10.1007/s11356-015-5774-y
- IARC. (2015). *Polychlorinated Biphenyls and Polybrominated Biphenyls*. Retrieved from Lyon, France:
- Jacobson, J. L. and S. W. Jacobson (1996). Intellectual impairment in children exposed to polychlorinated biphenyls in utero. *N Engl J Med* 335(11): 783-789.
- Klosterhaus, S., McKee, L. J., Yee, D., Kass, J. M., & Wong, A. (2014). Polychlorinated biphenyls in the exterior caulk of San Francisco Bay Area buildings, California, USA. *Environ Int*, 66, 38-43. doi:10.1016/j.envint.2014.01.008
- Koh, W. X., Hornbuckle, K. C., & Thorne, P. S. (2015). Human Serum from Urban and Rural Adolescents and Their Mothers Shows Exposure to Polychlorinated Biphenyls Not Found in Commercial Mixtures. *Environ Sci Technol*, 49(13), 8105-8112. doi:10.1021/acs.est.5b01854
- Koh, W. X., Hornbuckle, K. C., Wang, K., & Thorne, P. S. (2016). Serum polychlorinated biphenyls and their hydroxylated metabolites are associated with demographic and behavioral factors in children and mothers. *Environ Int*, 94, 538-545. doi:10.1016/j.envint.2016.06.014
- Kohler, M., Tremp, J., Zennegg, M., Seiler, C., Minder-Kohler, S., Beck, M., . . . Schmid, P. (2005). Joint sealants: an overlooked diffuse source of polychlorinated biphenyls in buildings. *Environ Sci Technol*, 39(7), 1967-1973.
- Lauby-Secretan, B., et al. (2013). Carcinogenicity of polychlorinated biphenyls and polybrominated biphenyls. *Lancet Oncol* 14(4): 287-288.
- Lehmann, G. M., Christensen, K., Maddaloni, M., & Phillips, L. J. (2015). Evaluating health risks from inhaled polychlorinated biphenyls: research needs for addressing uncertainty. *Environ Health Perspect*, 123(2), 109-113. doi:10.1289/ehp.1408564
- Liebl, B., Schettgen, T., Kerscher, G., Broding, H. C., Otto, A., Angerer, J., & Drexler, H. (2004). Evidence for increased internal exposure to lower chlorinated polychlorinated biphenyls (PCB) in pupils attending a contaminated school. *Int J Hyg Environ Health*, 207(4), 315-324. doi:10.1078/1438-4639-00296
- Lyng, N. L., Clausen, P. A., Lundsgaard, C., & Andersen, H. V. (2016). Modelling the impact of room temperature on concentrations of polychlorinated biphenyls (PCBs) in indoor air. *Chemosphere*, 144, 2127-2133. doi:http://dx.doi.org/10.1016/j.chemosphere.2015.10.112

- MacIntosh, D. L., Minegishi, T., Fragala, M. A., Allen, J. G., Coghlan, K. M., Stewart, J. H., & McCarthy, J. F. (2012). Mitigation of building-related polychlorinated biphenyls in indoor air of a school. *Environ Health*, *11*, 24. doi:10.1186/1476-069x-11-24
- Marek, R. F., Thorne, P. S., DeWall, J., & Hornbuckle, K. C. (2014). Variability in PCB and OH-PCB serum levels in children and their mothers in urban and rural U.S. communities. *Environ Sci Technol*, *48*(22), 13459-13467. doi:10.1021/es502490w
- Marek, R. F., Thorne, P. S., Herkert, N. J., Awad, A. M., & Hornbuckle, K. C. (2017). Airborne PCBs and OH-PCBs Inside and Outside Urban and Rural U.S. Schools. *Environ Sci Technol*, *51*(14), 7853-7860. doi:10.1021/acs.est.7b01910
- Meyer, H. W., Frederiksen, M., Goen, T., Ebbehøj, N. E., Gunnarsen, L., Brauer, C., . . . Jacobsen, P. (2013). Plasma polychlorinated biphenyls in residents of 91 PCB-contaminated and 108 non-contaminated dwellings-an exposure study. *Int J Hyg Environ Health*, *216*(6), 755-762. doi:10.1016/j.ijheh.2013.02.008
- Mitro, S. D., Johnson, T., & Zota, A. R. (2015). Cumulative Chemical Exposures During Pregnancy and Early Development. *Curr Environ Health Rep*, *2*(4), 367-378. doi:10.1007/s40572-015-0064-x
- Morrison, G. C., Andersen, H. V., Gunnarsen, L., Varol, D., Uhde, E., & Kolarik, B. (2017). Partitioning of PCBs from air to clothing materials in a Danish apartment. *Indoor Air*. doi:10.1111/ina.12411
- Newman, D. M. (2010). PCBs in schools: what about school maintenance workers? *New Solut*, *20*(2), 189-191. doi:10.2190/NS.20.2.c
- Office of Senator Edward J. Markey. (2016). *The ABC's of PCBs: A Toxic Threat to America's Schools*. Retrieved from Washington, D.C.:
- Osterberg, D., & Scammell, M. K. (2016). PCBs in schools-where communities and science come together. *Environ Sci Pollut Res Int*, *23*(3), 1998-2002. doi:10.1007/s11356-015-5009-2
- Peper, M., Klett, M., & Morgenstern, R. (2005). Neuropsychological effects of chronic low-dose exposure to polychlorinated biphenyls (PCBs): a cross-sectional study. *Environ Health*, *4*, 22. doi:10.1186/1476-069x-4-22
- Raffy, G., Mercier, F., Blanchard, O., Derbez, M., Dassonville, C., Bonvallot, N., . . . Le Bot, B. (2016). Semi-volatile organic compounds in the air and dust of 30 French schools: a pilot study. *Indoor Air*. doi:10.1111/ina.12288
- Robertson, L. W., & Ludewig, G. (2011). Polychlorinated Biphenyl (PCB) carcinogenicity with special emphasis on airborne PCBs. *Gefahrst Reinhalt Luft*, *71*(1-2), 25-32.
- Shanahan, C. E., Spak, S. N., Martinez, A., & Hornbuckle, K. C. (2015). Inventory of PCBs in Chicago and Opportunities for Reduction in Airborne Emissions and Human Exposure. *Environmental Science & Technology*, *49*(23), 13878-13888. doi:10.1021/acs.est.5b00906
- Tatsuta, N., Nakai, K., Murata, K., Suzuki, K., Iwai-Shimada, M., Kurokawa, N., . . . Satoh, H. (2014). Impacts of prenatal exposures to polychlorinated biphenyls, methylmercury, and

- lead on intellectual ability of 42-month-old children in Japan. *Environ Res*, 133, 321-326. doi:10.1016/j.envres.2014.05.024
- Thomas, K., Xue, J., Williams, R., Jones, P., & Whitaker, D. (2012). *Polychlorinated biphenyls (PCBs) in school buildings: sources, environmental levels, and exposures*. Retrieved from U.S. EPA. (n.d.). Exposure Levels for Evaluation of Polychlorinated Biphenyls (PCBs) in Indoor School Air. Retrieved from <https://www.epa.gov/pcbs/exposure-levels-evaluating-polychlorinated-biphenyls-pcbs-indoor-school-air> 12/6/17
- Vorkamp, K. (2016). An overlooked environmental issue? A review of the inadvertent formation of PCB-11 and other PCB congeners and their occurrence in consumer products and in the environment. *Sci Total Environ*, 541, 1463-1476. doi:10.1016/j.scitotenv.2015.10.019
- Wang, W., Huang, M. J., Zheng, J. S., Cheung, K. C., & Wong, M. H. (2013). Exposure assessment and distribution of polychlorinated biphenyls (PCBs) contained in indoor and outdoor dusts and the impacts of particle size and bioaccessibility. *Sci Total Environ*, 463-464, 1201-1209. doi:10.1016/j.scitotenv.2013.04.059
- Wilson, N. K., Chuang, J. C., & Lyu, C. (2001). Levels of persistent organic pollutants in several child day care centers. *J Expo Anal Environ Epidemiol*, 11(6), 449-458.
- Winneke, G. (2011). Developmental aspects of environmental neurotoxicology: lessons from lead and polychlorinated biphenyls. *J Neurol Sci*, 308(1-2), 9-15. doi:10.1016/j.jns.2011.05.020
- Zhong, L., Su, F. C., & Batterman, S. (2017). Volatile Organic Compounds (VOCs) in Conventional and High Performance School Buildings in the U.S. *Int J Environ Res Public Health*, 14(1). doi:10.3390/ijerph14010100