



NEW YORK COMMITTEE FOR OCCUPATIONAL SAFETY AND HEALTH

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POLYCHLORINATED BIPHENYLS (PCBs): **REASSESSMENT OF USE AUTHORIZATIONS**

COMMENTS RE:

ADVANCE NOTICE OF PROPOSED RULEMAKING

DOCKET # EPA-HQ-OPPT-0757

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 761

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The New York Committee for Occupational Safety and Health (NYCOSH) is an independent, non-profit, union-based health and safety organization with offices in New York City and Hauppauge, NY. Over 200 local unions and other labor and community organizations in the metropolitan area are members of NYCOSH, as are several hundred individual workplace safety and health activists, public health professionals and advocates, and concerned citizens. NYCOSH has been providing technical assistance and comprehensive training in occupational safety and health to unions, employers, community-based organizations, and government agencies for approximately 30 years.

NYCOSH appreciates the opportunity to comment on EPA's advance notice of proposed rulemaking (EPA-HQ-OPPT-0757, Polychlorinated Biphenyls - Reassessment of Use Authorizations).

NYCOSH is particularly interested in the issue of PCB-containing caulks and paints as we work closely on environmental and occupational safety and health issues with unions that represent teachers, school maintenance workers, and contractors, all of whom are potentially impacted by exposure to PCB-containing caulks and paints. In addition, NYCOSH is actively involved in green initiatives, including working with and providing occupational safety and health training to workers involved in weatherization projects. These workers are likely to encounter and disturb window caulk which may contain PCBs in the course of their work, resulting in potential occupational exposure and in potential environmental contamination of the habitable spaces in which they work.

NYCOSH is well-situated to provide comments regarding possible changes to PCB regulations. Through our grant relationships with OSHA, NIEHS, New York State Department of Labor, Red Cross, United Church of Christ Disaster Response Ministries, and other government and private agencies, we have provided training and technical assistance in a wide variety of occupational safety and health areas, including respiratory protection and personal protective equipment, engineering controls (including dilution and local exhaust ventilation), disaster response (including 29 CFR 1910.120, "Hazwoper"), and permit-required confined space operations. We have conducted hazardous waste training for New York City Transit for almost 20 years.

NYCOSH has provided technical assistance to New York City Department of Environmental Protection regarding hazard assessment and remediation of multiple contaminants, including PCB caulk and transformer PCBs, at a New York City waste water treatment plant. We have worked closely with a major New York City hospital to provide training for hospital-based first receivers of victims of mass casualty incidents that involve the release of hazardous substances and to provide technical assistance with decontamination procedures and equipment.

As NYCOSH's industrial hygienist, I served on EPA's World Trade Center Expert Technical Review Panel as well as on the Exposure Assessment Working Group of the World Trade Center Worker and Volunteer Medical Screening Program. I currently serve on advisory boards for the New York City Health and Hospitals Corporation World Trade Center Environmental Health Center and the New York City Department of Health and Mental Hygiene World Trade Center Registry. In addition, I was a member of the Advisory Group on Brownfield Cleanup Standards of the Standing Committee on Environmental Conservation of the New York State Assembly.

NYCOSH's comments are limited to the proposed reassessment of PCB-containing caulks and paints.

EPA requests input on whether the use of PCBs at concentrations of 50 parts per million (ppm) or greater in caulk products, currently unauthorized, should be authorized, and on whether the 50 ppm level that defines excluded PCB products (i.e., excluded from regulation) should be changed.

NYCOSH is concerned that the only reason EPA gives for these possible revisions is that “the use of PCBs in caulk may be widespread and may be an undue burden for schools.” We are disturbed that possible changes to environmental regulations appear to be driven solely by economic factors and that no reasons protective of environmental or public health are cited. Although we acknowledge the reality and burden of economic factors, we believe there are currently no valid scientific reasons for weakening or eliminating environmental regulations pertaining to unauthorized uses of PCB products and/or non-totally-enclosed PCB products such as PCB-containing caulks and paints.

NYCOSH urges EPA not to revise PCB regulations based solely or primarily on economic factors. We object to regulatory revision in the absence of science-based evidence of the need to do so.

PCB-containing caulks are not specifically mentioned or addressed by 40 CFR 761 - Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions, and it is possible their existence was neither recognized nor anticipated. However, beginning in 2002 scientists and activists confirmed the widespread existence of PCB-containing caulks and other materials, often at high concentrations, in geographically dispersed schools and other public and

private buildings.^{1,2,3}

As a result, when EPA began to address the issue of PCB caulk in schools, the agency referenced 40 CFR 761.20, which states:

(a) No persons may use any PCB, or any PCB item regardless of concentration, in any manner other than in a totally enclosed manner within the United States unless authorized under §761.30, except that:

(1) An authorization is not required to use those PCBs or PCB Items which consist of excluded PCB products as defined in §761.3.

Per 40 CFR 761.3, “[t]otally enclosed manner means any manner that will ensure no exposure of human beings or the environment to any concentration of PCBs.”

In possibly its first public statement on PCB caulk in schools, EPA wrote in 2005:

The use of PCBs in caulking and sealant materials has never been authorized by the Environmental Protection Agency. In general, the placement of such materials pre-dates the enactment of the Toxic Substances Control Act and its use today is not authorized. Therefore, the prospect of authorizing the continued use of this material in residential settings, or where children could be exposed, is extremely unlikely. Because it is illegal and the potential for exposure may be significant, PCB-containing caulk must be removed upon discovery.⁴

EPA reiterated its protective stance in 2007, again referencing the issues of non-totally

¹M. Chang, K. Coghlan, J. McCarthy. “Remediating PCB-Containing Building Products: Strategies and Regulatory Considerations,” *Indoor Air 2002: 9th International Conference on Indoor Air Quality and Climate*. International Academy of Indoor Air Sciences.

²R. Herrick, M. McClean, et. al. “An Unrecognized Source of PCB Contamination in Schools and Other Buildings,” *Environmental Health Perspectives*, Vol. 112, No. 10, July 2004.

³R. Herrick, D. Lefkowitz, G. Weymouth. “Soil Contamination from PCB-containing Buildings,” *Environmental Health Perspectives*, Vol. 115, No. 2, February 2007.

⁴U.S. Environmental Protection Agency, Region 2. Letter from Kenneth Stoller, Chief, Pesticides and Toxic Substances Branch, to Michael Kaplowitz, Westchester County Board of Legislators. July 26, 2007. [www.pcbinschools.org/EPA LETTER.pdf](http://www.pcbinschools.org/EPA%20LETTER.pdf).

enclosed activities and authorized use:

The federal PCB regulations at 40 CFR section 761.30 specifically list the authorized uses of PCBs for "non-totally enclosed" activities; i.e., activities that may expose human beings or the environment to PCBs. Any non-totally enclosed use not specifically authorized under 40 CFR section 761.30 is prohibited. See 40 CFR section 761.20 (a). The use of PCBs in caulk is not an authorized use and thus is a violation of section 6 (e) of TSCA.⁵

By 2009, EPA had retreated from its protective stance on PCB-containing caulks, introducing for the first time the issue of excluded PCB products:

Caulk that contains PCBs at greater than 50 ppm is not authorized for continued use and must be removed. ...[Y]ou are not required to remove caulk containing PCBs at levels below 50 ppm...⁶

Excluded PCB products (i.e., products excluded from regulation) are defined by 40 CFR 761.3 as "PCB materials which appear at concentrations less than 50 ppm." However, all examples of excluded PCB products listed in §761.3 (PCBs as inadvertently generated byproducts, products contaminated with PCBs, PCB-contaminated recycled fluids or equipment, and used oils) are products that have become contaminated with PCBs, not products manufactured with PCBs as intentional ingredients. Because some caulks and paints were manufactured with the deliberate inclusion of PCBs for their plasticizing properties, we believe they should not be considered excluded products (i.e., that they should not be excluded from regulation).

⁵ U.S. Environmental Protection Agency, Region 2. Letter from Regional Administrator Alan Steinberg to Senator Charles Schumer. July 26, 2007. [www.pcbinschools.org/EPA SHUMER.pdf](http://www.pcbinschools.org/EPA_SHUMER.pdf). (sic)

⁶ U.S. Environmental Protection Agency. *Current Best Practices for PCBs in Caulk Fact Sheet: Interim Measures for Assessing Risk and Taking Action to Reduce Exposures*. October 2009. www.epa.gov/pcbsincaulk/caulkinterim.pdf.

NYCOSH urges EPA to revert to its original position that in-place PCB caulks, regardless of concentration, should be considered unauthorized, unless and until new scientific evidence justifies a downgrading of the level of concern.

With regard to health risk from exposure to PCB caulks, EPA has given insufficient consideration to the activities of the populations with potentially the highest exposures and risks - the maintenance workers and contractors who maintain and replace PCB caulk and other PCB materials, and the weatherization workers who retrofit older buildings to increase energy efficiency under federal stimulus programs. These disturbance activities can significantly accelerate the release of PCBs into the air where they are available for inadvertent inhalation as well as for dispersion throughout the indoor environment.

Reliance on occupational standards may not be adequately protective of workers engaged in disturbance of PCB building materials. Occupational exposure standards in general are promulgated for application to industrial workplaces and are intended to protect individual workers who are trained to be fully aware of the hazards of the occupational environment, who may have specific training in and access to protective equipment such as respirators and/or protective clothing, and who may actively participate in medical monitoring programs.

Our experience is that employers of school maintenance workers and contractors and of weatherization workers do not conduct PCB-focused job hazard/exposure assessments and do not provide training on PCB hazards, safe work practices, and use of personal protective equipment.

OSHA does not have permissible exposure limits (PELs) for inhalational exposure to airborne PCBs. NIOSH's recommended exposure limits (RELs) are double EPA's "public health levels of PCBs in school indoor air" for adults aged 19 or

older. The non-enforceable RELs for chlorodiphenyl (42% chlorine) and chlorodiphenyl (54% chlorine) are 1,000 ng/m³ as time weighted averages over 8 hours. By contrast, EPA recommends that “total PCB exposure be kept below the reference dose level” which correlates to the agency’s 450 ng/m³ adult recommended public health level of PCBs in school indoor air.⁷

40 CFR 761.20 states that “any exposure of human beings or the environment to PCBs ... may be significant.” Given that the worker populations which engage in disturbance of PCB-containing caulks, and their employers, are less likely to be aware of PCB hazards, to conduct PCB exposure assessment or monitoring, or to utilize PCB-focused safe work practices and controls, and given that OSHA has no PELs and that NIOSH RELs are unenforceable and would provide only half as much protection as the EPA standard, NYCOSH strongly urges EPA to consider worker exposure scenarios as it assesses whether and how to revise regulations pertaining to PCB caulks.

A review of the literature indicates a small but growing body of evidence that associates occupational exposure to disturbance of or proximity to PCB caulks with elevated blood serum concentrations of PCB congeners. Kontsas, et. al., measured blood levels of 24 PCB congeners among home renovation workers removing PCB caulks. The concentrations in blood for the sum of the 10 most abundant PCB congeners were 2 to 10 times higher post-renovation compared to pre-renovation.⁸ Wingfors, et. al., found that PCB blood levels in workers engaged in removal of PCB caulks were twice as high as in age- and sex-matched controls.

⁷ U.S. Environmental Protection Agency. *Public Health Levels for PCBs in Indoor School Air*. www.epa.gov/pcbsincaulk/maxconcentrations.pdf.

⁸ H. Kontsas, K. Pekari, et. al. “Worker Exposure to Polychlorinated Biphenyls in Elastic Polysulphide Sealant Renovation.” *Annals of Occupational Hygiene*. Vol. 48, No. 1, 2004.

The study also identified markers for occupational and dietary exposure.⁹ Herrick, et. al., found that serum PCB levels of workers removing PCB caulks were elevated when compared with serum PCB levels from controls in the same area.¹⁰ Gabrio, et. al., and Schwenk, et. al., found elevated blood PCB levels in teachers working in buildings that had PCB caulks.^{11,12} Johansson, et. al., found elevated blood PCB levels in residents of apartment buildings that contained PCB caulks.¹³

It is worth noting that OSHA requires that work-related elevations in PCB blood levels be recorded as occupational illnesses:

Tests performed during a routine or event induced medical examination which result in values outside the range of normality indicate an abnormal condition. This abnormal condition will be considered to be work related for OSHA injury and illness recordkeeping purposes if an event or exposure in the workplace either caused or contributed to the abnormal condition... Polychlorinated biphenyls (PCBs)... detected in the blood of an employee exposed over time to PCBs would be recordable as an illness if the level were above that expected in nonoccupational populations. Ninety-five percent (95%) of the general population have levels less than 20 ng/mL (ppb)... Therefore any level above 19 ng/mL (ppb) would be abnormal and would constitute a recordable illness if work related.¹⁴

⁹ H. Wingfors, A. Selden, et. al. "Identification of Markers for PCB Exposure in Plasma from Swedish Construction Workers Removing Old Elastic Sealants." *Annals of Occupational Hygiene*. Vol. 50, No. 1, 2006.

¹⁰ R. Herrick, J. Meeker, et. al. "Serum PCB Levels and Congener Profiles Among U.S. Construction Workers." *Environmental Health*. Vol. 6, No. 25, 2007.

¹¹ T. Gabrio, I. Piechotowski, et. al. "PCB-Blood Levels in Teachers Working in PCB-Contaminated Schools." *Chemosphere*. Vol. 40, Nos. 9-11, May/June 2000.

¹² M. Schwenk, T. Gabrio, et. al. "Human Bio-Monitoring of Polychlorinated Biphenyls and Polychlorinated Dibenzodioxins and Dibenzofurans in Teachers Working in a PCB-Contaminated School." *Chemosphere*. Vol. 47, No. 2, April 2002.

¹³ N. Johansson, A. Hanberg, et. al. "PCB in Building Sealant is Influencing PCB Levels in Blood of Residents." *Organohalogen Compounds*. Vol. 63, 2003.

¹⁴ U.S. Department of Labor, Occupational Safety and Health Administration. *OSHA Interpretation, Standard Number 1904, Recordability of Blood-PCB Levels*. June 30, 1998.

NYCOSH believes it essential that EPA consider occupational exposure and occupational health as key criteria in its assessment of whether to revise the regulations pertaining to PCB caulks and other PCB-containing building materials. Such consideration must focus on the worker populations and the work tasks most likely to have the greatest opportunities for exposure, risk, and substance release. Protection of the most-exposed workers by eliminating or reducing the introduction of PCB contaminants into the indoor environment may be the most effective method for mitigating other human and environmental exposures. In this sense, the most exposed workers serve as the “canaries” for the public health of the community at large.

Such an approach is not novel. EPA itself, in its excellent publication *Managing Asbestos in Place: How to Develop and Maintain a Building Asbestos Operations and Maintenance (O&M) Program*, utilizes precisely this approach, relying on protection of workers to protect the public health.¹⁵

In conclusion:

1. At this time there is no scientific rationale to justify weakening or eliminating regulatory protections pertaining to PCBs in caulks and other non-totally enclosed, non-authorized PCB building materials. NYCOSH urges EPA not to revise PCB regulations based solely or primarily on economic factors. We object to regulatory revision in the absence of science-based evidence of the need to do so.
2. NYCOSH urges EPA to revert to its original position that in-place PCB caulks, regardless of concentration, should be considered unauthorized,

¹⁵ www.epa.gov/asbestos/pubs/management_in_place.html.

unless and until new scientific evidence justifies a downgrading of the level of concern.

3. NYCOSH strongly urges EPA to consider worker exposure scenarios as it assesses whether to revise regulations pertaining to PCB caulks.

4. NYCOSH urges EPA to adopt guidance for comprehensive, written PCB Operations and Maintenance (O&M) Programs for in-place PCB building materials. The guidance should be similar to the agency's guidance for asbestos O&M programs and should include, but not be limited to:
 - A. Bulk sampling and analysis to identify in-place PCB caulks and determine concentration.

 - B. Labeling of in-place PCB-caulks and establishment of building inventories of PCB-containing or PCB-contaminated building materials.

 - C. Establishment of clear and specific science-based criteria, action levels, and procedures for removal and disposal of PCB-containing and PCB-contaminated building materials.

 - D. Regular area and personal sampling to inform worker protection and to monitor changes in air concentrations to provide early warnings of deterioration or disturbance of PCB materials.

 - E. Regular visual inspection of PCB-containing and PCB-contaminated building materials by competent, qualified persons to ascertain

condition and potential for disturbance.

- F. Recordkeeping of inventory, sampling, and inspection results, and of disturbance activities.
- G. Training of building maintenance workers and contractors in engineering and administrative controls, safe work practices, and appropriate use of personal protective equipment (PPE).
- H. If and where appropriate, training in and provision of proper respirators as per the OSHA Respiratory Protection Standard, 29 CFR 1910.134. Prohibition of single use, disposable paper dust masks.
- I. A program to inform workers, contractors, and building occupants where PCB materials are located and to notify them of planned or ongoing disturbance activities.