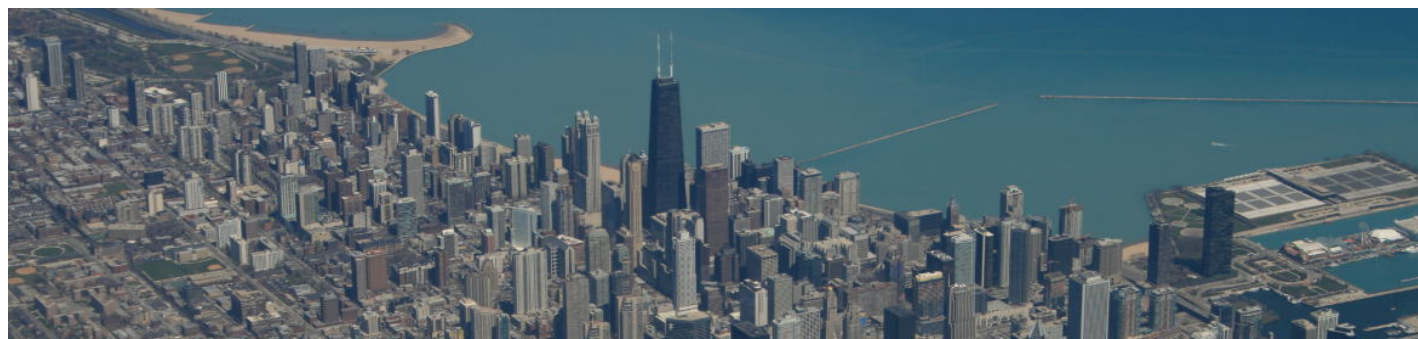


# Long-banned chemicals still in paint, contaminating Chicago's air

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*Hundreds of pounds of toxic PCBs, banned in the '70s, taint Chicago's air each year; sources include paints still sold on the market*

October 21, 2015

By Brian Bienkowski ([../.../..../archive?](#)

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Environmental Health News

More than 400 pounds of toxic PCBs are emitted to Chicago's air each year and researchers warn that some of this load comes via a chemical reaction in paint still sold in hardware stores.

New research



Keri Hornbuckle (Credit: uiowa.edu (<http://www.engineering.uiowa.edu/cee/faculty-staff/keri-c-hornbuckle>))

(<http://www.ncbi.nlm.nih.gov/pubmed/26440379>) designed to inventory the chemicals in Chicago finds soils, sewage sludge and paint are major sources and current cleanup strategies may not be the most effective for protecting people's health.

The chemicals were once widely used as electrical insulators and industrial lubricants but were banned in the late 1970s when researchers found them building up in people and linked them to health effects such as cancer, heart problems and impacts to brain development.

PCBs, short for polychlorinated biphenyls, now seem to be a byproduct of certain pigment production. In recent years researchers have found that some paints, clothing, newspapers and magazines (<http://www.environmentalhealthnews.org/ehs/news/2014/feb/pcb-pigments>) contain forms of the chemicals, usually a specific compound called PCB-11.

**"Architectural paint that we buy at hardware stores contributes to a significant amount of PCBs people are exposed to everyday."**

“Architectural paint that we buy at hardware stores contributes to a significant amount of PCBs people are exposed to every day. That’s just crazy,” said Keri Hornbuckle, a professor at the University of Iowa’s department of civil and environmental engineering, who previously found (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2853905/>) more than 50 PCB compounds in 33 commercial paint pigments purchased from U.S. stores.

**That's just crazy."-  
Keri Hornbuckle,  
University of Iowa**

PCBs build up in the fat tissues of fish and some animals and eating such foods has long been considered the major exposure route for humans. But there is increasing evidence that inhaling airborne PCBs also plays a role in people’s toxic load and such exposures—small as they are—can result in disease.

“PCBs are dangerous chemicals ... even low concentrations of PCBs in air constitute an important route of exposure and disease, especially if the exposure is prolonged,” wrote Dr. David Carpenter ([http://mediad.publicbroadcasting.net/p/wnpr/files/201508/385.\\_\\_volatile\\_pcb.pdf%20%20%20](http://mediad.publicbroadcasting.net/p/wnpr/files/201508/385.__volatile_pcb.pdf%20%20%20)), director of the Institute for Health and the Environment at the University at Albany-SUNY, in a report this year on airborne PCBs.

In the first comprehensive inventory of PCBs for a city, Hornbuckle and colleagues examined where the chemicals are and where airborne emissions come from in Chicago.

Paints—both on the exterior and interior of buildings—were just a sliver of the city’s PCBs load, but contributed 7 percent of total emissions.

They calculated paint emissions by looking at the annual volume of paint sold in the city estimated to have PCB-containing pigments, and past studies of how the chemicals are emitted from paint.

Some of the larger emissions sources were drying sewage sludge and contaminated soils.

City soils—which accounted for 31 percent of emissions—did not include Superfund sites or other areas known to be contaminated, said co-author Scott Spak, an assistant professor of urban and regional planning and engineering at the University of Iowa.

“These are soils across the city—parks, backyards, highway medians,” Spak said.

“This makes cleaning up urban soils across cities one of the harder sources to mitigate,” he said.

While all PCBs can escape from soils, PCB-11 is one of the most volatile forms of the chemical, the authors warn, saying it may be emitted to air within hours to days of applying the paint.



Shayla M./flickr (<https://www.flickr.com/photos/10015567@N08/6653613759/>)

Sixty percent of 85 women from East Chicago, Indiana, and Columbus Junction, Iowa, had traces of PCB-11 in their blood, according to a 2013 study

(<http://pubs.acs.org/doi/abs/10.1021/es304455k%20%20%20>) from Hornbuckle and colleagues.

Steve Sides—vice president of the American Coatings Association, which represents paint manufacturers—said in an email that they are aware of studies finding low levels of contaminants in paint materials but had “nothing to add” in regards to the Chicago study.

PCBs as a byproduct of pigment manufacturing remain exempt from the Toxic Control Substances Act, the federal law regulating chemicals because the amounts aren't large enough to be significant.

The U.S. Environmental Protection Agency, which enforces chemical regulation, has requested that federal scientists from the National Toxicology Program investigate PCB-11's potential to harm people, said EPA spokeswoman Cathy Milbourn in an email.

In addition, there are limits on the concentrations of such “inadvertently generated PCBs”, Milbourn said.

“Specifically an annual average of no more than 25 [parts per million] and a 50 [parts per million] maximum” in products manufactured or imported into the United States, she said.

Hornbuckle and Spak argue that, while the concentrations of PCBs in paint may be small, the EPA should consider that the chemicals are easily released into air.

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*For questions or feedback about this piece, contact Brian Bienkowski at [bbienkowski@ehn.org](mailto:bbienkowski@ehn.org) (<mailto:bbienkowski@ehn.org>).*



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21 October **Long-banned chemicals still in paint, contaminating Chicago's air.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/oct/long-banned-chemicals-still-in-paint-contaminating-chicago2019s-air>) More than 400 pounds of toxic PCBs are emitted to Chicago's air each year and researchers warn that some of this load comes via a chemical reaction in paint still sold in hardware stores. Environmental Health News (<http://www.environmentalhealthnews.org>).

**21 October Commentary: Firefighters and teachers bear outsize burden of asbestos deaths.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/oct/commentary-firefighters-and-teachers-bear-outsize-burden-of-asbestos-deaths>) Among those more likely than the average American to die from asbestos exposure are two such groups – one that willingly put themselves in harm's way, another that may have never known they were at risk: firefighters and teachers. Environmental Health News (<http://www.environmentalhealthnews.org>).

**16 October Media: Is the US ignoring military burn pits' harm to Middle East civilians?**

(<http://www.environmentalhealthnews.org/ehs/news/2015/oct/media-is-the-us-ignoring-military-burn-pits2019-harm-to-middle-east-civilians>) The U.S. media has failed to expose the civilian toll of recent wars by largely ignoring burn pits' toxic effects on local people, a U.S. researcher argues in a new report, suggesting the burn pits are this generation's Agent Orange. Environmental Health News (<http://www.environmentalhealthnews.org>).

**15 October Putting down the plow in Oklahoma.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/oct/no-till-farming-oklahoma-crop-rotation-winter-wheat-climate-chant-runoff-pesticides>) The Sooner State is part of a trend toward leaving farmland untilled to tackle runoff and climate change; but some remain wary of associated pesticide use. Environmental Health News (<http://www.environmentalhealthnews.org>).

**6 October Scientists play catch up as new chemicals contaminate Great Lakes birds.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/oct/flame-retardants-chemicals-birds-gull-great-lakes>) Stain repellent and fire retardant chemicals that scientists know little about are increasingly showing up in herring gull eggs around the Great Lakes, spurring concern for potential health impacts. Environmental Health News (<http://www.environmentalhealthnews.org>).

**1 October Vinyl flooring chemical linked to high blood pressure during pregnancy.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/sep/phthalates-pregnant-blood-pressure-chemicals-heart-disease>) Pregnant? Beware of the vinyl flooring. Chemicals often used in vinyl flooring and PVC may make pregnant women more susceptible to heart diseases, according to a new study. Environmental Health News (<http://www.environmentalhealthnews.org>).

**26 September Essay: Doing something about the weather.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/sep/essay-doing-something-about-the-weather>) Some of us may be feeling a little Poped-out at this point, so here's another charismatic contemporary religious figure with strong views on human influence on the environment. On September 26 and 27, 1985, we witnessed one of the greatest miracles in the history of meteorology. Environmental Health News (<http://www.environmentalhealthnews.org>).

**25 September BPA linked to low birth weights in baby girls.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/sep/bpa-linked-to-low-birth-weights-in-baby-girls>) Girls born to mothers with high levels of BPA in their system during the first trimester of pregnancy weigh less at birth than babies with lower exposure, according to a new study. Environmental Health News (<http://www.environmentalhealthnews.org>).

**24 September BPA in mothers' urine linked to low birth weights in China.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/sep/bpa-endocrine-disruptors-babies-low-birth-weight-china>) A pregnant woman's exposure to BPA may potentially increase the risk of delivering



babies with low birth weights, according to a new study from China. Environmental Health News (<http://www.environmentalhealthnews.org>).

24 September **Rising seas may spell trouble for Pacific Island seabirds: Study.**

(<http://www.environmentalhealthnews.org/t/1750342758482763524>) Tropical seabirds—such as Laysan albatrosses, black-footed albatrosses and Bonin petrels—that breed on low-lying islands in the Pacific Ocean are under threat from projected rising seas, according to a new study. Daily Climate (<http://www.dailyclimate.org>).

23 September **Moms on a mission: Q&A with the co-founder of Moms Clean Air Force.**

(<http://www.environmentalhealthnews.org/ehs/news/2015/sep/clean-air-climate-change-mothers-interview-coal>) Dominique Browning is leading a charge of hundreds of thousands of moms (and dads!) with a simple message to leaders—clean up our air. . Environmental Health News (<http://www.environmentalhealthnews.org>).

22 September **What Tibetan Buddhists, Andean Paqos can teach us about climate change.**

(<http://www.environmentalhealthnews.org/t/-3824808254728292845>) Glaciers have for decades supplied crucial water to mountain communities worldwide—but they also quench spiritual thirst. For these communities, climate change is cultural change. Daily Climate (<http://www.dailyclimate.org>).

21 September **Letter from our founder: The exciting evolution of EHN.**

(<http://www.environmentalhealthnews.org/ehs/news/planetary-boundaries-topics>) I want today to share with you a revamped Environmental Health News. Beneath the masthead of our revamped EHN.org, we've added links to new pages that highlight important stories about toxification, food, agriculture and other foundational issues. Environmental Health News (<http://www.environmentalhealthnews.org>).

15 September **Commentary: A potent denier, denied.**

(<http://www.environmentalhealthnews.org/t/-4598784844373870814>) One climate-denying head of state is ousted. Another one is looking over his shoulder. Daily Climate (<http://www.dailyclimate.org>).

15 September **Cloudy with a chance of climate change: Weather website adds context.**

(<http://www.environmentalhealthnews.org/t/-4598784844373870813>) There's an old saw: Weather is what you've got, climate is what's coming. A new website launched Tuesday mashes the two, serving up a dose of climate projections specific to your locale along with the day's weather. Daily Climate (<http://www.dailyclimate.org>).

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