

Agency for Toxic Substances & Disease Registry Health Consultation Summary

American Zinc Recycling, Palmerton, Carbon County, PA

Background

On January 24, 2017, the United States Environmental Protection Agency (EPA) Region 3, asked the Agency for Toxic Substances and Disease Registry (ATSDR) to conduct a public health evaluation of the community's current exposures to lead in the air near the operating American Zinc Recycling (AZR) facility. The AZR facility is in Palmerton, Carbon County, Pennsylvania. In the evaluation, ATSDR also summarized available childhood blood lead information for this community. ATSDR released the American Zinc Recycling Letter Health Consultation on July 31, 2018.

Full ATSDR report available at:

https://www.atsdr.cdc.gov/HAC/pha/AmericanZincRecycling/American_Zinc_Recycling_LCH_508.pdf

Smelting operations began at this location in 1898 (smelting is a process of applying heat to ore in order to extract out a base metal). Environmental contamination related to smelting operations led to the listing of the nearby Palmerton Zinc Pile on the National Priorities List in 1983. The Centers for Disease Control and Prevention (CDC), ATSDR, and the Pennsylvania Department of Health (PADOH) have conducted a broad range of public health assessment and health study activities in Palmerton over the years.

What did ATSDR's Health Consultation Evaluate?

The letter focused on the community's possible exposure to lead in the air. ATSDR conducted a preliminary analysis of EPA's air modeling results (Figure 1) and evaluated air monitoring data from the PA Department of Environmental Protection (PADEP) from a National Ambient Air Quality Standard (NAAQS) air monitor in Palmerton.¹ The NAAQS for lead in air is 0.15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in total suspended particulate as a 3-month average.

Key Findings

- A public health concern was identified for lead in air within 3 miles of the American Zinc Recycling facility. Young children and pregnant women are most at risk from lead exposures. Lead can pass from a mother to her unborn baby. Too much lead in your body can:
 - put you at risk of miscarriage
 - cause your baby to be born too early or too small; and
 - hurt your baby's or young child's brains, kidneys, and nervous systems or cause your child to have learning or behavior problems.²
- The rates of elevated blood lead levels in children living in Carbon County are similar to statewide rates. However, due to the small numbers of children involved, specific rates for Palmerton are not available to determine whether blood lead levels in children are different in the immediate area near the AZR facility.
- Air modeling results suggest that higher concentrations of lead than those measured at the existing air monitoring station are possible in the Palmerton community.

Recommendations and Next Steps

Environmental agencies should consider further actions to reduce lead emissions from this facility as well as:

- Conduct particle deposition modeling,
- Review additional available PADEP air monitoring data,
- Consider additional air monitoring,
- Obtain further information about levels of lead in surface soil, and

¹ Air *modeling* is a mathematical simulation of how chemicals in air move and react in the atmosphere to affect ambient air quality. Air *monitoring* is the process of collecting samples of air in order to estimate the concentration of chemicals in the air at that location.

² CDC, Lead Poisoning, https://www.cdc.gov/nceh/lead/tools/are_you_pregnant.pdf.

- Evaluate fugitive emissions from the facility boundary and existing permits to ensure that all emission sources and potential offsite concentrations of site related chemicals do not pose a public health hazard.

Health agencies should continue to evaluate and share community health information and continue to:

- Evaluate and conduct further analyses of child and adult blood lead levels in Palmerton/Carbon County, and
- Discuss the need to increase blood lead screening activities and health provider outreach in Palmerton, PA.

Families should:

- Reduce children's and pregnant women's exposures to lead, including avoiding sources that contain lead including lead-based paint; brass; lead-containing toys, candies, or tableware; traditional folk medicines; contaminated soil/dust; and lead from hobbies/jobs (e.g., stained glass, firearm ammunition, fishing weights, welding, and home renovation), and
- Test children's blood for lead following guidance from CDC³ and the American Academy of Pediatrics.⁴

Please talk to your health professional or call PADOH's Lead Information Line at 1 800 440 LEAD (5323) if you have concerns about exposure to lead and want more information on steps you can take to reduce exposures.

For questions about ATSDR's report, please contact Dr. Karl Markiewicz, Senior Toxicologist, ATSDR Region 3 at 215 814 3149, kvm4@cdc.gov or Lora Werner, Regional Director, ATSDR Region 3 at 215 814 3141, lkw9@cdc.gov.

Figure 1: Modeled 3-month average lead concentrations in air near AZR site in Palmerton, PA

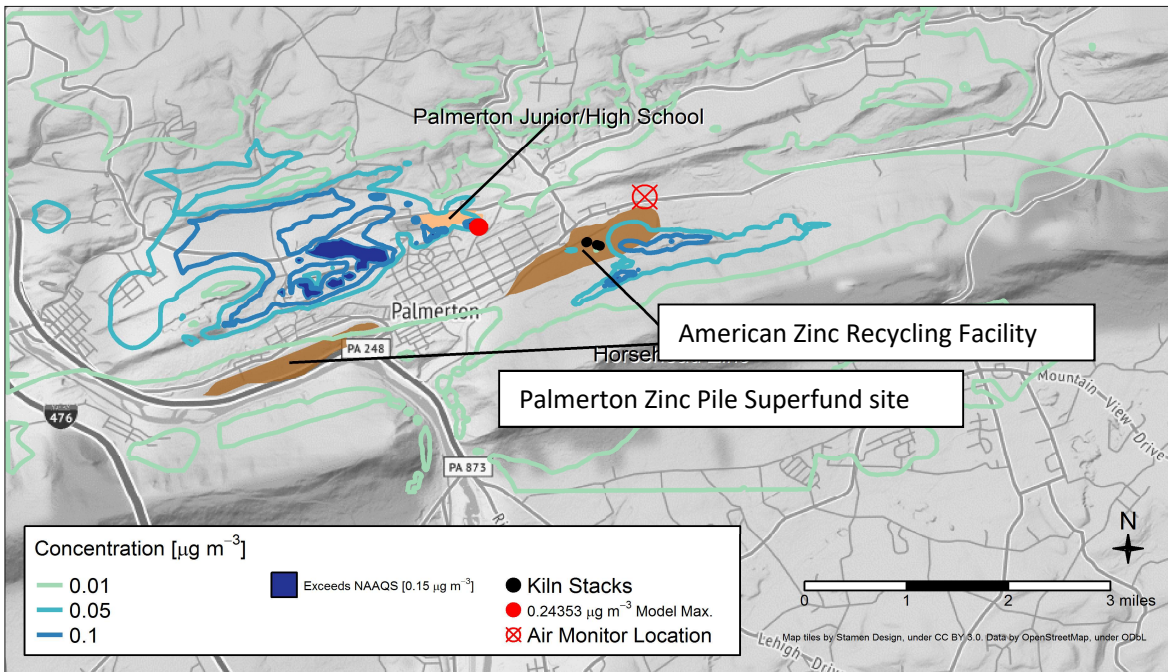


Figure Notes:

Model period based on 2002 - 2010 Onsite Meteorological Data using AERMOD Version 16216.

Contours of highest rolling 3-month average design values processed by LEADPOST. (LEADPOST is a post-processing tool that calculates design values from monthly AERMOD output.)

Areas exceeding National Ambient Air Concentration (NAAQS) are highlighted in blue.

µg/m³: Micrograms per cubic meter

³ CDC, Recommended Actions Based on Blood Lead Level, 2018. Available at: https://www.cdc.gov/nceh/lead/acclpp/actions_blls.html.

⁴ American Academy of Pediatrics, Detection of Lead Poisoning, 2016.

Available at: <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/lead-exposure/Pages/Detection-of-Lead-Poisoning.aspx>.



CDC's National Center for Environmental Health
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