

Lead Pollution from Small Aircraft Operation

Lead Pollution from Small Aircraft – Executive Summary

Leaded aviation gasoline (avgas) remains the largest source of airborne lead emissions in the United States, disproportionately affecting children living near small airports. Recent evidence confirms elevated blood lead levels and health risks, prompting stronger regulatory and community action.

Intro Paragraph

Small piston-engine aircraft are the largest remaining source of airborne lead pollution in the United States, primarily from the use of leaded aviation gasoline (avgas). Lead exposure is particularly harmful to children, causing developmental delays, lower IQ, and increased risk of behavioral disorders. Recent U.S. studies and official reports have strengthened the evidence that communities near small airports face higher health risks, driving regulatory momentum toward eliminating leaded avgas.

Table: U.S. Studies & Reports on Leaded Aviation Fuel

Year	Source / Report	Population Focus	Key Findings	Direct Link
2025	EPA Working Paper – Cardiovascular Mortality and Leaded Aviation Fuel	Adults 65+ near airports	Higher cardiovascular mortality associated with piston-engine aircraft traffic near single-runway airports	https://www.epa.gov/environmental-economics/cardiovascular-mortality-and-leaded-aviation-fuel-evidence-piston-engine
2024	Berg et al. – Colorado Children’s Blood Lead Levels (<i>Environmental Health Insights</i>)	Children near Colorado airports	Small but statistically significant increases in children’s blood lead levels near airports	https://link.springer.com/article/10.1007/s44274-024-00061-1
2024	Colorado Dept. of Public Health – Avgas & Children	Children within ~2 miles of airports	Proximity to small airports linked to measurable increases in BLL	https://www.saveourskiesalliance.org/bdu-updates/unveiling-the-health-impacts-of-leaded-aviation-fuel
2023	EPA Endangerment Finding on Leaded Avgas	U.S. population, especially children	Official finding that lead emissions from piston-engine aircraft endanger public health	https://www.federalregister.gov/documents/2023/10/20/2023-23247/finding-that-lead-emissions-from-aircraft-engines-that-operate-on-leaded-fuel-cause-or-contribute-to
2023	Zahrn et al. – <i>PNAS Nexus</i>	Children near U.S. airports	Lead deposition from avgas associated with elevated children’s BLLs	https://academic.oup.com/pnasnexus/article/2/1/pgac285/6979725
2021	Santa Clara County – Reid-Hillview Airport Study	Children within ~1.5 miles of the airport	Elevated BLLs nearly double Flint water crisis levels; prompted county ban on leaded avgas	https://news.santaclaracounty.gov/reid-hillview-airport-airborne-lead-study-evergreen-news
2011	Miranda et al. (NC study) – <i>Environmental Health Perspectives</i>	Children within ~500 m of airports	Each 500 m closer to an airport associated with ~4.4% higher BLL	https://pmc.ncbi.nlm.nih.gov/articles/PMC3230438/
2011	Middleton Municipal Airport (WI) – Public Health Report	Local community case study	Evidence of elevated lead associated with piston-engine aircraft operations	https://publichealthmdc.com/documents/middleton_airport_lead_report.pdf

