

Lead contamination risk near Notre-Dame cathedral

Police advise residents to clean with wet wipes after finding lead particles released by cathedral fire

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redit: Thierry Mallet/SIPA/Newscom

Lead that coated Notre-Dame Cathedral's spire and roof framing was released to the environment when the cathedral burned last month.

On the night of April 15, horrified onlookers in Paris and across the world watched as fire devastated the city's iconic Notre-Dame de Paris Cathedral. Immediately after the fire, cathedral restoration was the focus, with people pledging millions of euros for the effort. It was not until April 27 that the Parisian police issued a warning to local residents. Tests by the police's central laboratory found high levels of neurotoxic lead dust in the immediate area around the church.

Concerns about the lead-clad spire and cathedral framing had been voiced much earlier by the environmental advocacy group Robin des Bois. But the original advice was that the 300 metric tons of cladding would have melted and fallen into the main building.

“I, like everybody else, just assumed the lead would melt and pour all the way down to the bottom of the cathedral,” says Mike Anderson, a materials chemist at the UK’s University of Manchester. “But it quickly became apparent that the vaulted ceiling is just below the roof and essentially stops the lead from falling out of the roof space.”

Trapped close to the blaze, which burned at over 800 °C, some of the lead would have begun to vaporize and oxidize, feeding more heat into the reaction and accelerating the vaporization and oxidation, Anderson says. He is concerned that the focus on cathedral restoration is clouding people’s attention. “At exactly the same time as a cathedral burnt in Paris, there was a chemical disaster in the center,” he says.

Contaminated areas around the cathedral such as the cathedral gardens are closed. Police suggest local residents use wet wipes to remove dust from surfaces and furniture and that anyone concerned should consult their doctor. The police did not suggest how to dispose of used wipes. There have been no reports of acute lead poisoning since the inferno.

Health authorities plan to protect cathedral restoration workers and conduct longer-term testing of exposed areas. Airparif, which monitors air quality in Paris, said air pollution did not exceed normal levels the day after the fire, but it is still conducting follow up analysis on the levels of lead. Normally, airborne lead levels in Paris are at the limit of detection of Airparif’s equipment.

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