

US wildfire suppressants rife with toxic heavy metals, study finds **Suppressants a 'major' source of toxic pollution that causes heavy-metal levels to spike in the environment**

The US federal government and chemical makers have long concealed the contents of pink wildfire suppressants widely spread by firefighting aircraft to contain blazes, but new test results provide alarming answers – the substances are rife with cadmium, arsenic, chromium and other toxic heavy metals.

The suppressants are a “major” source of toxic pollution that causes heavy-metal levels to spike in the environment, and the products themselves contain metal levels up to 3,000 times above drinking water limits, the [peer-reviewed research](#) found.

The government and chemical makers have claimed up to 20% of aerial suppressants' contents are “trade secrets” and exempt from public disclosure, so while there has been [suspicion](#) of the substances' toxicity, the study is the first to confirm the metals' presence.

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It also highlights the tension between protecting human health and property from wildfires by spraying highly toxic substances – about 440m gallons were sprayed between 2009 and 2021, the study noted.

“As rates of aerial fire retardant application have grown, likely so too have loadings of toxic metals released into the environment from their use, a trend which may intensify if wildfire frequency and intensity continues to increase,” the University of Southern California authors wrote.

The suppressants are a mix of water, fertilizer, and undisclosed ingredients, while the pink color comes from added dye to show firefighters where it has been sprayed. Metals are likely used as anti-corrosion agents to prevent the plane's tankers from

disintegrating, they authors wrote. The mix works by coating vegetation and lowering the amount of oxygen that could fuel the fire.

The substance was dropped by as many as 25 aircraft daily to contain the devastating Los Angeles wildfires, and [photos](#) from it vividly convey the trade off, showing homes and property covered in hot pink suppression.

The metal levels in the suppressants meet federal guidelines and the authors were initially most worried about environmental contamination, but the heavy use in residential areas this year raises a new set of concerns, Daniel McCurry, one of the study's co-authors, told the Guardian.

“Are the hazardous waste thresholds the appropriate bar for these to clear, or, if they're being used in a massive scale in populated neighborhoods, do we need to get stricter on permissible concentrations of toxic compounds?” McCurry asked.

Although metal pollution has been documented in the wake of wildfires, previous research has largely ignored the possibility that it stems from undisclosed suppressant ingredients. The USC researchers started with two pieces of “circumstantial evidence” that pointed to the possibility – an internal federal report that detailed metal use, and a state of Washington environmental violation notice that revealed the potential for toxic metal pollution.

The authors tested 10 types of commonly used commercial suppressants and confirmed they contained high levels of toxic metals.

Researchers then checked state and federal records to determine where suppressants were spread between 2009 and 2021, as well as metal levels in the environment, and showed that the data tracked with their testing's findings.

The producer of one of the suppressants has said a new generation of the product is “greener”, McCurry said, but he added “until we are able to come across some of this material and test it, we really don't know”.

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Nov 1, 2024The team tested numerous **wildfire suppressants** and found they have released ~850,000 pounds of **toxic metals** into the environment in the Western United States from 2009-2021.

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Toxic Metals Found in Wildfire Suppressants

Oct 30, 2024A team of researchers from the USC Viterbi School of Engineering's Sonny Astani Department of Civil and Environmental Engineering have tested several **wildfire suppressants**, estimating in a paper in Environmental Science and Technology Letters, that these materials have released approximately 850,000 pounds of **toxic metals** into the environment in the Western United States from 2009-2021.

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Identifying Heavy Metals in Wildfire Suppressants

Dec 24, 2024To unpick this and gain greater clarity, a team from California have quantified the **metal** concentrations in several fire suppression products to evaluate whether these could be contributing to increased **metal** concentrations in the environment. 9 The results showed that long-term fire retardants contained concentrations of **toxic metals** up to ...

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Some wildfire suppressants may be unleashing heavy metals into the ...

Oct 30, 2024The widespread use of certain chemical or synthetic fire **suppressants** may be leading to **heavy metal** contamination in **wildfire**-prone areas, a new study has found. Wildland firefighters often supplement...

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High levels of hazardous heavy metals found in products used to fight ...

Oct 31, 2024By Douglas Main A new study shows that sprays and retardants used to fight **wildfires** contain surprisingly high levels of **toxic heavy metals**, a "disturbing" finding at a time when **wildfires** are generally getting worse. The paper, published October 30 in the journal Environmental Science & Technology Letters, found that each of 14 fire suppression products examined contained at least eight ...

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Wildfire retardant is laden with toxic metals, USC study finds

Nov 16, 2024The discovery of high levels of **heavy metals** in a popular fire retardant has added to long-running concerns from environmentalists. **Wildfire** retardant is laden with **toxic metals**, study finds - Los ...