Outlook

Re: Preprint and LA Fire Health Community Response

From Andrew J Whelton <awhelton@purdue.edu>
Date Thu 8/28/2025 10:42 PM
To mjkleeman@ucdavis.edu <mjkleeman@ucdavis.edu>; jgallen <jgallen@hsph.harvard.edu>
Cc ebollens@lightboxre.com <ebollens@lightboxre.com>; contact.efru@gmail.com <contact.efru@gmail.com>; admin@postfireLA.org <admin@postfireLA.org>
Bcc Plumbing Safety <plumbingsafety@purdue.edu>

Dear Dr. Allen, Dr. Kleeman, et al.

We watched the webinar tonight live and wanted to send this note. First, we want to share our positive feedback to you all in your conveying the scientific information in a measured way. There was a lot of information shared during the initial part of the meeting that was not provided in the pre-print report or Data Brief 7. That information included valuable context and could probably help the manuscript go more smoothly through peer-review.

Thank you again for the work the teams are doing. We look forward to reviewing the published papers.

Sincerely,
Andrew Whelton
Eric Bollens

From: Andrew J Whelton <awhelton@purdue.edu>
Sent: Thursday, August 28, 2025 11:06 AM
To: mjkleeman@ucdavis.edu <mjkleeman@ucdavis.edu>; jgallen <jgallen@hsph.harvard.edu>
Cc: ebollens@lightboxre.com <ebollens@lightboxre.com>; contact.efru@gmail.com <contact.efru@gmail.com>; admin@postfireLA.org <admin@postfireLA.org>
Subject: Preprint and LA Fire Health Community Response

Dear Dr. Allen:

Given your leadership at the LA Fire Health Consortium on behalf of Harvard University, we are notifying you about several issues, that if unaddressed, may result in harm to the very people your consortium's work is meant to help.

We appreciate your work in supporting recovery from this disaster, and we look forward to reviewing revisions to the pre-print report. We also look forward to reviewing other works of your consortium, all of which we hope can be strong additions to the literature as it relates to the identification and mitigation of environmental impacts of urban megafire.

If you have questions, please do not hesitate to reach out to us at awhelton@purdue.edu and ebollens@lightboxre.com.

Because of the rapid nature of your data release, webinar announcement, and our own schedules, we simply were unable to provide this information to you sooner. We have also cc'd the study author and two groups who have shared information about this on social media, which victims have sent us asking if they and their families are safe.

Sincerely,
Andrew

==========

Andrew J. Whelton, Ph.D.
Professor of Civil, Environmental, and Ecological Engineering
Lyles School of Civil Engineering, Environmental and Ecological Engineering
Director, Healthy Plumbing Consortium and Center for Plumbing Safety
550 Stadium Mall Drive, Purdue University, West Lafayette, IN USA 47907
E-mail: awhelton@purdue.edu

==========

Plumbing Safety at http://www.PlumbingSafety.org
CIPP Solutions at http://www.CIPPSafety.org
Follow us on Twitter @TheWheltonGroup

==========

Joseph Allen, DSc, CIH
Harvard University, LA Fire Health Consortium
Boston, MA

cc: Michael Kleeman, UC Davis
cc: Patty Raterman, PostFireLA
cc: Jane Lawton-Moore, EFRU

August 28, 2025

Preprint and Community Response to LA Fire Health

Dear Professor Allen:

Given your leadership at the LA Fire Health Consortium on behalf of Harvard University, we are notifying you about several issues that, if unaddressed, may result in harm to the very people the consortium's work is meant to help.

For context…

1. On August 27, 2025, LA Fire Health Consortium emailed its email listserv that "Data Brief 7" was released in response to a pre-print report.[1] The pre-print report describes ambient air monitoring results conducted in March 2025 around the Palisades Fire and Eaton Fire burn zones. Data Brief 7 describes information in the pre-print as "preliminary," which implies that information is subject to change. However, recommendations provided in Data Brief 7 understate protective measures required for the conditions presented in the pre-print report, while Data Brief 7 and associated messaging over-sensationalizes the risk compared to the pre-print's findings and its preliminary nature.

2. The pre-print report has not undergone peer-review. Content (including methods, analyses, conclusions and recommendations) may or may not change significantly as a pre-print goes through the peer-review process, and we see several instances in this case where, based on our experience, we would expect to see substantive revisions prior to publication acceptance. The Research Square website where the preprint is published includes the following statement for the report: *"Preprints are preliminary reports that have not undergone peer review. They should not be considered conclusive, used to inform clinical practice, or referenced by the media as validated information."*

3. The approach, results, and discussion presented in the pre-print report are interesting. Chromium is well-known to be present in soils after urban wildfires, which is why CAM-17 analysis for soils is often conducted after debris removal.[2] The pre-print report describes finding chromium on nanoparticles in outdoor air around burn zones, specifically at levels below occupational safety limits but above USEPA indoor air exposure limits. The report does not describe data on control samples and prior benchmarks, nor does it offer discussion on the context of chromium taken as exterior measurements in an early post-fire stage versus impacts for residential life in a later post-fire stage. We look forward to reviewing the information that is missing from the pre-print.

4. On August 26, 2025, we understand that your consortium pre-briefed some organizations. On August 27, 2025, various community groups started forwarding material to different community groups, foundations, and disaster victims invoking the upcoming webinar. One material stated: "This toxic compound poses serious health risks and raises urgent questions about community safety." Another communication described LA Fire Health's "emergency ask from health and safety specialists."[3] A third

[1] Kleeman et al. "Airborne Hexavalent Chromium Nanoparticles Detected Around Cleanup Zones for the 2025 Los Angeles Wildfires," 26 Aug 2025, PREPRINT (Version 1) available at Research Square. https://doi.org/10.21203/rs.3.rs-7401328/v1
[2] Whelton and Mohanty. L.A. County Wildfire Soil Sampling History and Context Recommendations. April 2025. https://engineering.purdue.edu/PlumbingSafety/resources/Soil-Sampling-From-Past-Fires-05102025.pdf
[3] PostFire LA. REEL. August 27, 2025. https://www.instagram.com/reel/DN33RJuEvOD/

web posting: “Why is hexavalent chromium scary?”[4] Based on our conversations with households who have received the resultant messaging, this has negatively affected mental health in a manner inconsistent with the substance of the paper’s findings.

It is generally our position not to comment on pre-print reports, but because this report and Data Brief 7 were pushed into household living rooms, social media, and chat groups in preparation for a webinar scheduled for August 28 - and we were approached with concerns from disaster victims - we felt formal engagement was necessary. Details of our feedback are below.

We encourage you and your colleagues to exercise care in contextualizing and sharing information with communities affected by disasters. Chromium testing, in both soil and indoor environments, has been recommend by us since the fire occurred. Chromium is a well-recognized constituent of concern following urban megafires, and the pre-print, while potentially confirmatory in nature, does not present a new or unknown metal. Further, we agree that nanomaterials are important to better understand and support the researchers for exploring this topic. There is still work to be done to understand whether public health standards for nanomaterials in air should be developed (which, to our knowledge, have yet to be proposed outside of specific occupational standards for specific engineered nanomaterials). We sincerely ask that you better underscore the relevance of the results. It is our recommendation that a discussion should be included regarding the implications of what this confirmation potentially means to the process and protocols used in recovery efforts for this and future disasters.

We appreciate the work you and your collaborating institutions have done in supporting recovery from this disaster, and we look forward to reviewing revisions to the pre-print. We also look forward to reviewing other works of your consortium, all of which we hope can be strong additions to the literature as they relate to the identification and mitigation of environmental impacts of urban megafire.

If you have questions, please do not hesitate to reach out to us at awhelton@purdue.edu and ebollens@lightboxre.com. Because of the rapid nature of your data release, webinar announcement, and our own schedules, we simply were unable to provide this information to you sooner. We have also cc’d the study author and two groups who have shared information about this on social media, which victims have sent us asking if they and their families are safe.

Sincerely,

Andrew Whelton, Ph.D.
Professor
Purdue University

Eric Bollens
Chief Technology Officer
LightBox

Signed as individuals, not on behalf of their organization.

[4] PostFire LA. FAQS. August 28, 2025. https://www.postfirela.org/expertqa

Problems and Solutions for the Preprint and LA Fire Health Data Brief 7

We have identified a discrepancy between the pre-print report on Cr(VI) findings and the recommendations that accompanied them on Data Brief 7: Date Released: 8/26/2025. *Preliminary Data Findings: Chromium-6 Detected in Air near LA Burn Zones*. https://lafirehealth.org/new-la-fire-health-data-brief-chromium-6-detected-in-air-near-la-burn-zones/.

Specifically, with regards to the hazard implied in the pre-print report ("Cr and Ag display the most surprising size distributions since they were found almost exclusively in nanoparticles with diameter less than 56 nm at much higher concentrations inside the cleanup zone"), we have decided to focus on three problematic recommendations:

1. **The statement: "Upgrade HVAC filters to MERV 13 or higher rated filters."**

   The standard for MERV13 only requires 50% efficacy for filters as it pertains to the 0.3-1.0 micron range, and efficacy below 0.3 micron is not specified.[5] This excludes superfine Cr(VI), such as metal oxide fume. Also, even at the 56 nm threshold from the pre-print report, 50% efficacy cannot be recommended without a site-specific concentration also being known, or else such a recommendation may still lead to an exceedance of health standards.

2. **The statement: "Use HEPA vacuums to clean floors and upholstery."**

   Cyclonic extraction has significant limits to efficacy in upholstery,[6] such as is to be expected in the context of ultrafine distribution from this high-heat fire. There has been work showing that for upholstery, the technology had a less than great lead removal efficiency and even after HEPA filtering, upholstery had levels that were not adequate to prior study authors[7]. Further, cyclonic forces applied to the surface of a soft furnishing may cause resuspension, which presents as both an immediate inhalation hazard and as a recontamination vector for cleaned surfaces. It was unclear the degree the Cr(VI) particles would be resuspended or removed by the techniques recommended.

3. **The statement: "Wear N95 or KN95 masks while cleaning to avoid inhaling particles that may be stirred up during cleaning and debris removal activities."**

   N95 masks are generally 95% effective against airborne particles in ranges of 30 to 100 nm, but not below this threshold.[8] Consequently, the N95 standard is insufficient due to limits to this range versus suspect particulate size, and this risk is increased based on the conditions under which such protective equipment is used. To this point, within the context of resuspension risk during manipulation of contaminated surfaces (such as under the accompanying HEPA vacuum guidance), an N95 mask would be considered insufficient personal protective equipment under 8 *California Code of Regulations* (CCR) 5144. An air-purifying respirator equipped with a filter certified by NIOSH under 30 CFR part 11 as a high efficiency particulate air (HEPA) filter such as within the P100 class would be needed.

4. Another challenge is the mention of the word “cleaning” in the Data Brief 7. As we hope you and your colleagues know, some standing homes have *yet* to have chemical exposure hazards fully removed. “Cleaning” is not done for these fire or smoke damaged buildings. These buildings can have life-threatening or life-altering hazards. The proper action when a property is contaminated by a fire is “remediation”. Feedback from competent fire remediation professionals and testing is

[5] American National Standards Institute/ American Society of Heating, Refrigerating and Air-Conditioning Engineers. *Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.* ANSI/ASHRAE Standard 52.2-2017. Atlanta, GA. (page 29)

[6] U.S. Environmental Protection Agency. *Evaluation of Dust Samplers for Bare Floors and Upholstery.* 1996. Washington, D.C.

[7] Yiin et al. 2002. Comparison of techniques to reduce residential lead dust on carpet and upholstery: the new jersey assessment of cleaning techniques trial. *Environmental Health Perspectives*.

[8] He et al. *Effect of Particle Size on the Performance of an N95 Filtering Facepiece Respirator*, *Aersol SciTechnol.,* 2013

recommended. If contamination is found, remediation professionals trained to remove hazards without spreading them throughout the property or harming building inhabitants can be engaged. Cleaning is most appropriate when the life-threatening or life-altering hazards do not exist.

Additionally, in review of the pre-print report:

- Results presented are interesting, but where the accompanying material has drummed up concern, it lacks guidance to actions that disaster victims can take, such as explaining how to test for Cr(VI). We have and encourage you to recommend RCRA 8 (*Resources Conservation and Recovery Act*) as a minimum metal testing standard, which includes chromium. Chromium speciation can be conducted by the laboratory on request.

- We did not find the evidence in the pre-print report or Data Brief 7 showing that Cr(VI) originated from the fire. We did not find sufficient disclosures about other potential origins of Cr(VI) that may have influenced the results.

- We did not find adequate control samples or prior benchmarks reported.

- In our opinion, the pre-print report and accompanying material lack appropriate discussion around how data from exterior air samples taken in an early period following the fire should be regarded as it relates to long-term considerations for a mostly residential environment.

- Unfortunately, because both LA County and the State of California chose not to conduct confirmatory soil testing after debris removal which has been conducted after many past fires in the County and elsewhere, this lack of data likely impacted your ability to further scale and contextualize your hypotheses. On the morning of August 25, 2025, Cr(VI) soil testing was formally recommended to Governor Newsom for the Palisades and Eaton Fire areas.[9] If Governor Newsom corrects his Administration's Soil Sampling Guidance first issued the week of August 18, the Cr(VI) results could have value to the authors of the pre-print in evaluating and contextualizing their hypotheses.

Based on the information above and with regards to protective measures, we ask that you remove the recommendations as written. It also seems that your recommendations are now being publicly shared by others.[10] Should people follow these recommendations (whether individuals, or just as likely, insurance companies), doing so may place disaster victims, recovery workers, and others at risk of chemical exposure and harm, the very thing that the pre-print and associated materials are trying to prevent. Certainly, indoor remediation and indoor air treatment are viable responses, but it seems that the recommendations in the Data Brief 7 do not align with information reported in the pre-print report.

Further, as individuals who have supported hundreds of households after the Los Angeles area fires with the challenging task of testing and remediation, we ask that you please be sensitive to the way in which you communicate findings. We encourage you and your colleagues to issue evidence-based guidance specifically on the information you have discovered, and when you offer discussion, that you contextualize your findings within the specifics of the disaster.

We appreciate your work in supporting recovery from this disaster, and we look forward to reviewing revisions to the pre-print report. We also look forward to reviewing other works of your consortium, all of which we hope can be strong additions to the literature as it relates to the identification and mitigation of environmental impacts of urban megafire.

[9] Whelton, A.J. *Problems and Solutions to the DTSC Post-Fire Soil Testing Guidance Document. Submitted to Governor Gavin Newsom.* August 25, 2025. https://engineering.purdue.edu/PlumbingSafety/opinions/Opinion-Soil-Guidance-Post-Fire-08252025.pdf

[10] PostFire LA. FAQS. August 28, 2025. https://www.postfirela.org/expertqa