[Dr. Juniper L. Simonis](https://www.dapperstats.com/author/dr.-juniper-l.-simonis/) (they/them/their) **FOR IMMEDIATE RELEASE**

**Chemical Weapons Research Consortium**

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**Homeland Security Agents Weaponized Lethal Smoke Grenades Against Protesters**

*At least 26 used on racial justice protesters; grenades are commercially available to law enforcement*

**Present-day Portland, OR:** Community-driven scientific research documents weaponized use of [Hexachloroethane (HC) smoke grenades](https://www.defense-technology.com/product/maximum-smoke-hc-military-style-canister/), which produce [lethal Zinc Chloride gas](https://pubmed.ncbi.nlm.nih.gov/28074704/), by US Department of Homeland Security (DHS) agents acting under [Presidential Executive Order](https://www.whitehouse.gov/presidential-actions/executive-order-protecting-american-monuments-memorials-statues-combating-recent-criminal-violence/) and [Operation Diligent Valor](https://www.dhs.gov/news/2020/07/01/dhs-announces-new-task-force-protect-american-monuments-memorials-and-statues). Such grenades are [cheaply](https://city.milwaukee.gov/ImageLibrary/Groups/doaPurchasing/BidTabs/2020/B17339BidTab.pdf) [available to law enforcement agencies](https://www.aardvarktactical.com/products/hc-military-style-max-smoke-grenade) around the United States and pose imminent [human](https://militaryhealth.bmj.com/content/jramc/103/3/119.full.pdf) and [environmental](https://www.sciencedirect.com/science/article/pii/S2213305419300232) health risks.

The research is led by [Dr. Juniper L. Simonis](https://www.dapperstats.com/author/dr.-juniper-l.-simonis/) (they/them/their), who has authored a [report](https://doi.org/10.5281/zenodo.4059329) estimating that

*“DHS deployed 26 … HC grenades. Given the toxicity of ZnCl2, that … could have killed hundreds of people.”*

Dr. Simonis has conducted months of direct research in response to an unknown chemical weapon that caused [novel](https://twitter.com/oliviakatbi/status/1287274511629336576) [severe](https://twitter.com/alsoconnor/status/1285054272841773057), [mass](https://twitter.com/GregoryMcKelvey/status/1287495472983052288) [symptoms](https://twitter.com/tuckwoodstock/status/1284013510700097537) in those exposed. They combined [first-hand accounts from protesters](https://twitter.com/TheGreaterWatt/status/1289464239367708672), [media reports](https://twitter.com/LauraJedeed/status/1288410305345675264), [videos](https://twitter.com/_WhatRiot/status/1288680374646657024) and [photos](https://twitter.com/safe_pdx/status/1287504263946465280) of munitions, [primary literature](https://www.nap.edu/read/5582/chapter/7#139), and [analytical chemistry](https://zenodo.org/record/4434918/files/4_analytical_chemistry.pdf) to identify the weapon as gaseous Zinc Chloride from Hexachloroethane (HC) smoke grenades.

Independent investigations into the impacts of HC by [The Intercept](https://theintercept.com/2020/10/10/portland-tear-gas-chemical-grenades-protests/) and [Future Human](https://futurehuman.medium.com/scientists-identified-a-green-poisonous-gas-used-by-federal-agents-on-portland-protesters-5b56ac20a624) underscore the immediate and lasting toll the gassings had on the health of protesters, press, medics, legal observers, and bystanders. Given the long-term poisoning potential of [HC](https://pubchem.ncbi.nlm.nih.gov/compound/Hexachloroethane) and [Zinc Chloride](https://pubchem.ncbi.nlm.nih.gov/compound/Zinc-chloride), including [damaging the liver](https://pubchem.ncbi.nlm.nih.gov/source/hsdb/1050#section=Absorption-Distribution-and-Excretion-(Complete)) and [causing cancer](https://pubchem.ncbi.nlm.nih.gov/compound/Hexachloroethane#section=Safety-and-Hazards), this [report](https://doi.org/10.5281/zenodo.4059329) by Dr. Simonis provides a critical quantification that will aid necessary epidemiological studies.

Hexachloroethane smoke grenades pose substantial environmental dangers, as well, producing superheated heavy metals (Zinc, Lead, Hexavalent Chromium) and chlorates (highly corrosive):

* Environmental toxins have been found at [extremely elevated levels (10-fold increases) in the stormwater system](https://www.portland.gov/sites/default/files/2020-09/rca_samplingreport_sep2020.pdf) that [flows directly into nesting and rearing habitat for Chinook Salmon](https://www.opb.org/article/2020/10/23/tear-gas-environment-impact-portland/). This pollution will [negatively affect bone development](https://www.frontiersin.org/articles/10.3389/fphys.2016.00153/full) and [bioaccumulate](https://www.sciencedirect.com/science/article/pii/0041008X9190040L) in salmonids.
* Salmon from the Willamette are consumed [recreationally](https://lancefisherfishing.com/willamette-river-fishing/willamette-river-salmon-fishing/) and by [protected sea lions](https://www.opb.org/news/article/kill-sea-lions-oregon-willamette-falls/).
* Trees at the site of HC deployment have [elevated heavy metal concentrations](https://zenodo.org/record/4434918/files/4_analytical_chemistry.pdf), [displayed the expected defoliation](https://docs.google.com/document/d/1z_QBWA5v3XhB_Fu7p-fYQ_PQCq6RXKy1RpfcRB9-zlQ/edit?usp=sharing), and will likely have [reduced lifetime growth](https://www.sciencedirect.com/science/article/pii/S2213305419300232).

Research by Dr. Simonis indicates that HC is a threat to humans and the environment well beyond Portland Oregon:

* Manufacturer [Defense Technology®](https://www.defense-technology.com/) removed mention of toxic and lethal aspects of their [HC grenades](https://www.defense-technology.com/product/maximum-smoke-hc-military-style-canister/) from [federally regulated](https://www.law.cornell.edu/cfr/text/29/1910.1200) [Safety Data Sheet](http://sds.chemtel.net/webclients/safariland/finished_goods/Defense%20Technology%201083%20-%20Military-Style%20Maximum%20Smoke%20HC%20Grenade.pdf) over the past 25 years in response to a [lawsuit](https://www.courtlistener.com/docket/4294796/gamradt-v-federal-laboratories/) brought by a Federal Bureau of Prisons employee [exposed to HC during a training exercise in rural Minnesota in 1998](https://www.courtlistener.com/recap/gov.uscourts.mnd.10405.79.1.pdf).
* In advance of the Democratic National Convention, the Milwaukee Police Department [requested](https://www.jsonline.com/story/news/politics/elections/2020/07/21/dnc-milwaukee-police-seek-bids-riot-control-munitions/5480491002/) and [received](https://city.milwaukee.gov/ImageLibrary/Groups/doaPurchasing/BidTabs/2020/B17339BidTab.pdf) a bid for 60 HC smoke grenades, with a unit price of just $32.89.

**The Chemical Weapons Research Consortium** is an intentionally unincorporated collection of researchers and activists studying the use and impacts of chemical weapons. Founded in response to the use of chemical agents in present day Portland, Oregon against Black Lives Matter and racial justice protests that started in the wake of the murder of George Floyd by Minneapolis Police in 2020, [The Consortium Website](https://www.chemicalweaponsresearch.com/) is a hub for research, education, and collaboration.