

Fentanyl Cleanup

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BACKGROUND

After domestic production of methamphetamine (meth) increased significantly in the 1990s, federal and state authorities took action to address the hazardous conditions left behind in meth labs. Congress passed legislation directing the U.S. Environmental Protection Agency (EPA) to establish meth decontamination guidelines based on the best available scientific knowledge.ⁱ Twenty-eight states passed laws requiring notice that properties were former meth labs, prohibited habitation until sites were declared safe, or established standards and procedures for removing meth decontamination.¹



Today, the synthetic opioid fentanyl and its analogues cause over twice as many overdose deaths in the United States yearly as meth.ⁱⁱ Its effects, though similar to morphine or heroin, are 50 to 100 times more powerful, making even small amounts dangerous to users and bystanders alike.ⁱⁱⁱ Despite this, as of 2021, the scale of federal and state action on fentanyl cleanup is not comparable to that historically taken against meth labs. Fentanyl is

a relative newcomer to the scene of illicit drugs in the United States, so scientific authorities and policymakers have had less time to address the issue of clean up. In the interim, the lack of authoritative guidance and policy creates risks, as set forth below.

RISK, UNCERTAINTY, AND COST

Effective decontamination of fentanyl is especially important—and especially hazardous—because of the danger of accidental exposure. Overlooking even trace amounts may be deadly: a lethal dose for most people is no larger than five to seven individual grains of salt, at two to three milligrams.^{iv} Some have experienced overdose symptoms within minutes of exposure. The danger may be magnified by the variety of ways fentanyl can enter the human body. Exposure can occur by ingesting, inhaling, or absorbing it through skin or contact with the eye.^v Fentanyl is frequently crushed and pressed into pill form, producing a distinct green dust that can coat surfaces or float in the air.^{vi} Significant protective equipment is necessary to avoid accidental exposure.

The task of cleanup is made all the more difficult by the absence of clear scientific guidance. There have been multiple reports of first responders experiencing overdose symptoms after touching or inhaling fentanyl, but the science on the risks to bystanders is contested. The American College of Medical Toxicology released a statement in 2017 advising that “[i]ncidental dermal absorption is unlikely to cause opioid toxicity,” and the advocacy group the Harm Reduction Coalition similarly claimed, “opioid toxicity from transdermal or airborne exposure... is a near scientific impossibility.”^{vii,viii} Despite such objections, the

¹ The states are Alaska, Arizona, Arkansas, California, Colorado, Delaware, Hawaii, Idaho, Indiana, Kentucky, Louisiana, Michigan, Minnesota, Missouri, Montana,

Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, Oregon, Pennsylvania, Tennessee, Utah, Virginia, Washington, West Virginia, and Wyoming.

Centers for Disease Control and Prevention (CDC), U.S. Drug Enforcement Administration (DEA), and EPA all advise the use of gloves and breathing protection, stressing that, although incidental touch may not lead to toxic effects if the fentanyl is removed quickly, inhalation or prolonged skin contact can indeed prove toxic.^{ix,x,x}



Even when all bystanders are sufficiently protected from fentanyl, the primary task of removing the contamination from a property remains. The procedures for this are also subject to continuing analysis. The most common approach is the “collection and physical removal of fentanyl powder from surfaces,” which is most straightforward but risks leaving fentanyl behind in areas difficult to access and creates a “waste stream” that contains fentanyl.^{xii} EPA researchers believe that the use of chemical treatments would be more thorough and would reduce fentanyl’s toxicity, but tests are ongoing. Private decontamination companies have introduced and experimented with several chemical products in recent years, with active ingredients including peracetic acid, hydrogen peroxide, percarbonate, or hypochlorite, but these are not yet officially sanctioned by the EPA.^{xiii} Additional research is being conducted on decontaminating porous materials, the use of fumigation in complex contamination scenarios, and using wipes wetted with different solvents as a sampling and analysis method for fentanyl sites.^{xiv}

In addition to the danger and uncertainties of fentanyl cleanup—or perhaps because of them—the process is further complicated by the matter of cost. After a ripped bag spilled fentanyl into the trunk of a rental car in St. Louis, Missouri, the rental company contacted a decontamination company, only to learn that a midrange fentanyl cleanup job could cost \$30,000.^{xv} Because there were no cleanup requirements set by law, the rental car

company was able to decide to clean the car itself and “hope no customers would be exposed.”^{xvi} Insurance policies generally do not cover criminal acts, leaving property owners with the perverse incentive of doing as little cleanup as possible, to minimize their own costs.^{xvii} The price tag may be smaller, but lethal amounts of fentanyl may be left behind.

The car rental’s price quote was not unusual: jobs can cost \$400 per hour, with totals often reaching \$30,000 to \$50,000.^{xviii} Many factors increase these costs. Workers need heavy personal protective equipment (PPE)—respirators, hoods, gloves, boots, etc.—for their own safety.^{xix} The work is slow, and the heat from wearing hazmat suits means breaks are necessary every 20 minutes.^{xx} High efficiency particulate air (HEPA) vacuums are used to remove the tiniest particles from the scene, after which the \$1,200 machines must be incinerated.^{xxi} Special chemical disinfectants are applied, aiming to further neutralize any remaining fentanyl traces left behind.^{xxii}

Despite these compounding challenges, decontamination is possible. The common cleanup steps described above are not mandated by any health or environmental government authority. Private companies nationwide, many branching out from meth lab cleanup, have established their expertise through a combination of experience with similar decontamination, available health and science guidance, and cautious trial and error. The industry is booming, with one New England company nearly tripling its employees and offices in just two and one-half years to keep pace with the demand.^{xxiii} Rather than competing with other companies to best *meet* government requirements, these companies are effectively competing to *set* them. Several companies offer chemical agents to neutralize fentanyl on surfaces, and the race is on to see which ones will receive the EPA’s stamp of approval.^{xxiv}

CURRENT GUIDANCE AND LAW

Although government health and drug control authorities have not produced safety and cleanup guidance for fentanyl that is as comprehensive as that for methamphetamine, they have not been silent. The EPA released a Fact Sheet for on-scene coordinators in 2018 that may be the best single source on encountering and removing fentanyl, though the CDC and DEA have released similarly helpful guides for

first responders.^{xxv} The most developed guidance focuses on how best to protect those who are likely to come into direct contact with fentanyl.

In the absence of inhalation, dermal, or ocular exposure guidelines from the Occupational Safety and Health Administration or the National Institute of Occupational Safety and Health, the EPA Fact Sheet includes provisional advisory levels and industry occupation exposure limits for fentanyl, broken down by the avenue of exposure and the length of time exposed. If accidental exposure occurs, action and treatment steps are listed based on the avenue of exposure and severity of symptoms. To minimize exposure, four levels of PPE recommendations are included. At minimum, when the contaminant is identified as fentanyl and present in amounts below the exposure guidelines, responders are advised to wear nitrile gloves, coveralls, and chemical-resistant footwear, with taped wrists and ankles to prevent skin contact. With increasing levels of severity or uncertainty, the EPA advises increasingly elaborate PPE, up to “Level A” protection with Totally-Encapsulating Chemical Protective (TECP) suits and self-contained breathing apparatus.²

The EPA does not have exhaustive guidance on testing and decontamination, but it explains which methods have proven effective, even if further testing is ongoing. The EPA Fact Sheet identifies appropriate field testing kits, sampling methods, analysis methods, and decontamination strategies for removal of solids, surface decontamination, and aqueous solutions. The decontamination strategy section references several chemical agents used to neutralize fentanyl, though it notes that they have not been sufficiently tested for decontaminating surfaces. The EPA Fact Sheet concludes with recommendations on decontaminating personnel after responding to a cleanup site and disposal of waste generated in the cleanup process.

At the state and federal levels, lawmakers and regulatory agencies have done little to establish binding fentanyl cleanup requirements or procedures. There is no equivalent to the 2007

federal Methamphetamine Remediation Research Act that directs the EPA to establish guidelines for meth lab cleanup.



At the state level, 22 states and the District of Columbia do not have any laws or regulations on cleaning up drug sites

(shown on the map in red). Ten states (orange) have statutes designed to clean up meth labs, but they explicitly authorize cleanup standards, property use restrictions, or cleanup liability for meth labs alone, and cannot be applied to fentanyl contamination. Another sixteen states (blue) have similar statutes that were designed for cleaning up meth labs (or occasionally LSD, MDMA, or PCP) but are phrased using sufficiently general language that they describe cleanup of any controlled substance. Despite this legislative authorization, none of these states’ health departments or other relevant authorities have promulgated regulations for fentanyl cleanup.

Only two states (green), California and Wyoming, have addressed fentanyl by name in statute or regulation. However, even these steps are small: California has only established a maximum fentanyl detection level, and Wyoming has not established any regulations for fentanyl despite its explicit mention.

CONCLUSION

In response to a surge in methamphetamine production, federal and state authorities took action to protect the public and first responders from the lingering contaminants at former meth labs. Today, fentanyl and its analogs pose an even larger threat to public health. Scientific studies of fentanyl and the best methods for decontamination, though incomplete, have been fruitful. Nonetheless, as of 2021, there is a policy vacuum. Until scientific guidance is further developed more states take action to regulate the cleanup of fentanyl sites, the health and safety dangers posed by fentanyl contamination will remain.

² A TECP suit is “a full body garment...constructed of protective clothing materials” that “covers the wearer’s torso, head, arms, legs and respirator” and “completely encloses the wearer and respirator by itself or in combination with the

wearer’s gloves and boots.” *Personal Protective Equipment Test Methods*. Occupational Safety and Health Administration. <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.65AppA>.

Endnotes

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