



WHITE PAPER

# Fentanyl in the Workplace

Addressing Occupational Risks and Leveraging the Right PPE



PROTECTIVE INDUSTRIAL PRODUCTS, INC.  
[www.pipusa.com](http://www.pipusa.com)



As the opioid crisis continues to cast a long shadow over society, one potent synthetic drug has emerged as a critical player in this devastating epidemic: **fentanyl**. While its potency has raised concern for users, the danger stretches far beyond the scope of illicit drug consumption, affecting first responders, law enforcement and corrections officers, government and public works employees, and anyone inadvertently exposed to this deadly substance.

In this white paper, we will explore the insidious connection between work-related injuries and the opioid crisis, examine the various routes of occupational exposure to fentanyl, and discuss the essential components of a Fentanyl Exposure Control Program. We will also delve into effective prevention strategies, the importance of training and decontamination, and how the proper personal protective equipment (PPE) provides an essential line of defense for those on the frontlines of this public health emergency.

## **UNDERSTANDING FENTANYL**

Fentanyl is a highly potent synthetic opioid, similar to morphine and heroin, but 50 to 100 times more powerful. Opioids, a class of drugs frequently used for pain relief, can be prescribed or illegal. Prescription opioids, such as oxycodone, hydrocodone, morphine, methadone, and fentanyl, are typically used to manage moderate to severe pain but carry significant risks and side effects. Illegal opioids include heroin, illicitly produced fentanyl, and other synthetic varieties.



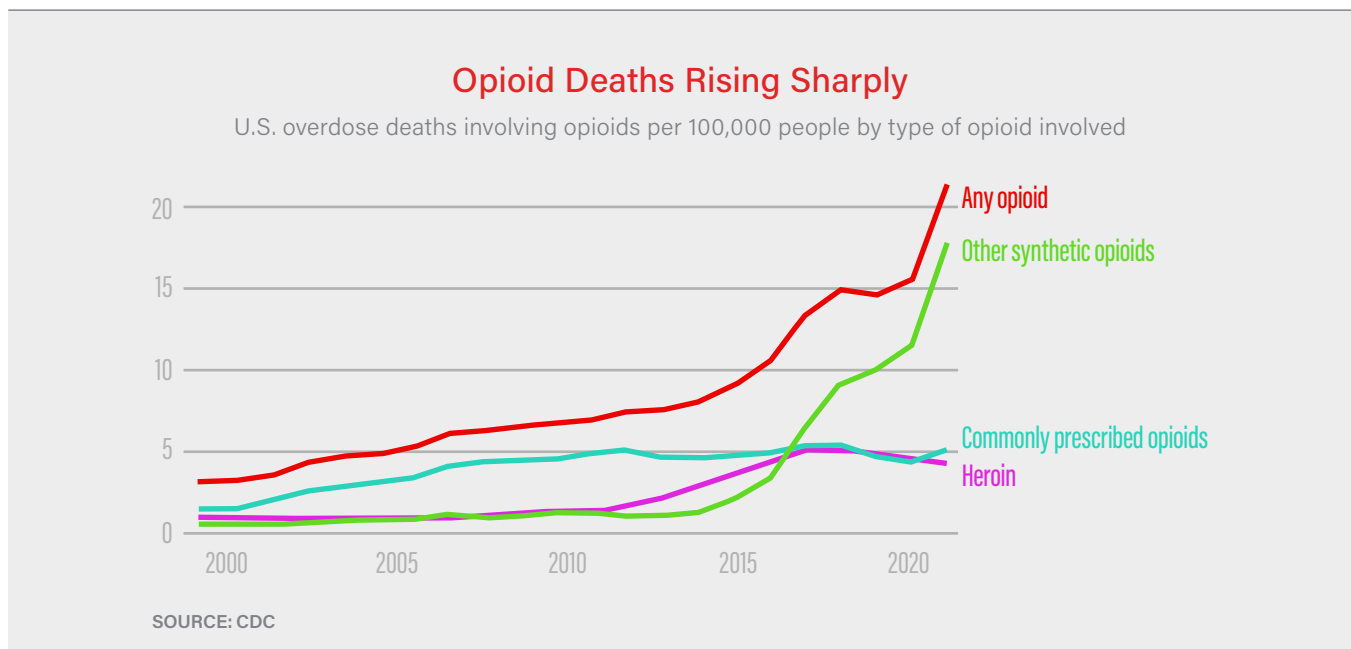
As a fast-acting synthetic opioid, fentanyl provides rapid pain relief. Its powder form can appear in various colors, such as white, pink, purple, blue, and green. Fentanyl has a powerful impact on the central nervous system and respiratory function, making even small amounts potentially lethal. A dose as tiny as 2 to 3 milligrams, equivalent to 5 to 7 grains of salt, can cause respiratory depression, arrest, and death.

## THE NUMBERS BEHIND THE CRISIS

The opioid crisis in the United States has been declared a national health emergency. In 2013, doctors wrote nearly a quarter of a billion opioid prescriptions, enough for every American adult to have their own bottle of pills. In 2014, approximately 2 million Americans were dependent on or abusing prescription painkillers.

Three waves of overdose deaths characterize the opioid epidemic. The first wave was triggered by the approval and promotion of OxyContin by Purdue Pharma in the mid-1990s, leading to the first deaths related to legal prescription opioids. The second wave involved heroin use by already addicted individuals, and the third wave saw an increase in deaths due to illegal synthetic opioids like fentanyl.

Synthetic opioid-related deaths have increased significantly from 3,000 in 2013 to 20,000 in 2016. Unfortunately, those numbers continue to rise year after year. In 2020, opioids were involved in nearly 75% of 91,799 overdose deaths.



The crisis has also seen a surge in synthetic opioids, such as fentanyl, mixed with heroin and other illicit drugs. Fentanyl is often formulated into tablets that look like therapeutic drugs, making it difficult for users to know if they are taking drugs containing this synthetic opioid.

## OCCUPATIONAL EXPOSURE TO FENTANYL

While fentanyl has primarily affected recreational and medical drug users, other groups are also at risk of exposure. For example, various workers in different industries may come into contact with fentanyl through inhalation, skin or eye contact, incidental ingestion, or accidental inoculation with sharps or needles.

Here are some examples of workers that may face occupational exposure:



**Law enforcement, corrections, and parole officers:** Police officers and other law enforcement personnel face the risk of occupational exposure to fentanyl and drug paraphernalia when investigating, frisking, arresting, and transporting individuals who have used fentanyl or who have overdosed.



**Environmental services, response, and cleanup workers:** Workers cleaning up affected crime scenes, spills, or abandoned drug labs may face occupational exposure to fentanyl and drug paraphernalia.



**Public employees:** Workers in public employers such as the Department of Transportation, highway maintenance, parks, and environmental conservation, may face occupational exposure to fentanyl and drug paraphernalia when removing needles and drug paraphernalia from public roads, highways, and parks.

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## ROUTES OF OCCUPATIONAL EXPOSURE TO FENTANYL

Fentanyl poses a considerable risk to workers who may encounter it during their duties. Occupational exposure can occur through various routes, including inhalation, absorption through the skin, eyes, and mucous membranes, hand-to-mouth ingestion, and accidental injection via sharps or needles.

Workers may come into contact with fentanyl in forms such as powder, pill, or liquid. While small amounts of dry products are unlikely to cause overdose through incidental skin contact if removed promptly, liquid or highly concentrated fentanyl can be rapidly absorbed through the skin and become extremely toxic. Therefore, it is crucial to ensure complete skin protection to avoid potentially fatal exposure.



Workers must understand the signs and symptoms of fentanyl exposure. Symptoms of an overdose may include stupor, pinpoint pupils that may later dilate, cold and clammy skin, cyanosis (bluish or purplish discoloration due to low oxygen levels), coma, respiratory failure leading to death, and other manifestations.

## **A FENTANYL EXPOSURE CONTROL PROGRAM**

Organizations need a well-thought-out game plan to combat this issue. A fentanyl exposure control program is necessary to ensure workplace safety from potential exposure to fentanyl and other illicit drugs. An effective program should include management commitment, worker involvement, hazard assessment, hazard control, decontamination, reporting and record-keeping, training, post-exposure procedures, plan updates, PPE, and evaluation.

When assessing hazards in the workplace, employers should consider which occupations and job tasks have potential exposure to fentanyl, whether workers are required to work in close proximity to potential exposure sources, and whether the work environment, equipment, or job tasks increase potential exposure.

After a thorough assessment, employers must implement controls to address the identified issues head-on. For example, engineering controls like industrial-grade pick-up tools, administrative controls, and PPE are all proven to effectively reduce exposure to fentanyl.

## **PREVENTING FENTANYL EXPOSURE**

Responding to incidents involving illicit drugs such as fentanyl requires prioritizing the safety of various groups of workers. Upon arriving at a scene, responders should assess the situation and determine the potential presence of fentanyl or other hazards.

NIOSH advises against eating, drinking, smoking, or using the bathroom while working in areas with known or suspected illicit drugs. In addition, responders should wear gloves and avoid actions that might cause fentanyl to become airborne. Only trained emergency responders with proper PPE should carry out activities that could release the drug into the air.

The National Institute for Occupational Safety and Health (NIOSH) has outlined key recommendations to prevent exposure to these drugs, emphasizing the importance of adhering to safe operating procedures and using personal protective equipment (PPE):

- > Wear gloves when fentanyl may be present and change them as needed to avoid contamination.
- > Use respiratory protection if powdered drugs are visible or suspected.
- > Refrain from activities that could cause illicit drugs to become airborne.
- > Avoid touching the eyes, nose, or mouth after contacting potentially contaminated surfaces, even if wearing gloves.
- > Wash hands with soap and water after working in a potentially contaminated area, regardless of glove use. Do not use hand sanitizer or bleach.

## TRAINING

To prevent occupational exposure to fentanyl or other opioids, training, and education are crucial. Employers must ensure workers understand how to safely identify, handle, and dispose of these substances. It is also essential to provide ongoing education and training to stay up-to-date with best practices and new developments.



Employers must train responders to perform on-scene risk assessments and identify illicit drugs, such as fentanyl, in various forms and quantities. They should learn to recognize situations that may cause airborne drugs, handle contaminated evidence safely, and spot signs of drug exposure poisoning. Additionally, training should include proper use of personal protective equipment (PPE) and decontamination procedures.

## DECONTAMINATION

While PPE can protect workers, improper equipment decontamination can result in an exposure. That's why proper decontamination of PPE, skin, and clothing is crucial to prevent further exposure to fentanyl. There are several decontamination protocols that organizations can follow.

The International Association of Fire Fighters (IAFF) developed a personal decontamination protocol to reduce the risk of occupational exposure to fentanyl or other opioids. The protocol involves using wet wipes to clean one's skin and PPE after a response that may have involved exposure to fentanyl or other opioids. The protocol also includes using an electrostatically charged blanket to remove any loose powder or particulate from PPE.



The IAB Personal Decontamination protocol provides a step-by-step process for preventing contamination that involves washing the skin with soap and water for at least 15 minutes if contact with fentanyl or other opioids is suspected. Using alcohol-based hand sanitizers or bleach solutions isn't recommended as they may enhance the skin's absorption of fentanyl. It is also essential to avoid touching one's face, nose, or mouth during decontamination to prevent accidental ingestion.

Picking the correct decontamination protocol will depend on the specific needs and demands of the work environment and workforce. However, these are some keys to consider when creating a decontamination process:

- > Responders should remove contaminated PPE, shower immediately with soap and water to thoroughly wash and rinse exposed skin and avoid breaking the skin while cleaning and covering all open wounds.
- > Dispose of contaminated single-use PPE immediately and appropriately.
- > Clean reusable PPE according to the manufacturer's recommendations.
- > Use absorbent wipes to thoroughly clean contaminated equipment and work areas to prevent the spread of fentanyl or other opioids.
- > Use a 5% peracetic acid or 10% hydrogen peroxide-based solution to decontaminate surfaces.
- > Avoid using free chlorine-based decontamination solutions as they may deteriorate the personal protective equipment (PPE).

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Responders are often at significant risk of exposure to illicit drugs like fentanyl during their regular duties. To minimize this risk, they must adhere to safe operating procedures and wear the appropriate personal protective equipment (PPE) to guard against exposure.

The National Institute for Occupational Safety and Health (NIOSH) suggests using PPE that corresponds to the potential exposure level, which may be minimal, moderate, or high. Recommended PPE includes gloves, respiratory protection, face and eye protection, wrist/arm protection, and self-contained breathing apparatuses.

It is important to note that the appropriate PPE may vary according to the risk involved. In some cases, higher levels of PPE may be necessary to shield responders from other hazards besides illicit drugs.

To effectively control exposure to fentanyl, workers must use and remove PPE properly. For example, when removing respirators, workers must wear clean gloves. Additionally, workers should protect their personal clothing with disposable sleeves, coats, or jumpsuits.

## HOW PIP® CAN HELP

As the fentanyl crisis wreaks havoc, various professionals, including law enforcement, corrections officers, and government employees, find themselves at the forefront of this battle, facing the risk of accidental exposure. When a mere 2 to 3 milligrams of fentanyl, equivalent to 5 to 7 grains of salt, can cause respiratory depression, arrest, and even death, these professionals need all the help they can get.



**67-308**



**67-246**

Protective Industrial Products (PIP®) has recognized this urgent need and has developed a revolutionary glove designed to provide enhanced protection against fentanyl and its associated dangers. These innovative gloves are thoroughly tested and proven to offer superior protection against fentanyl and the corrosive gastric acid found in the vomit of overdose



victims. In addition, these gloves meet the stringent ASTM D6978-05 testing guidelines, providing over 240 minutes of breakthrough and exposure resistance.

These Grippaz® gloves are extended-use, ambidextrous nitrile gloves featuring a textured fish scale grip and are available in a range of sizes to ensure a secure fit. By equipping those on the frontlines with the PIP groundbreaking gloves, we can help safeguard their well-being while they confront the challenges of the fentanyl crisis head-on.

**These innovative gloves are thoroughly tested and proven to offer superior protection against fentanyl and the corrosive gastric acid found in the vomit of overdose victims.**

## **HELPING TO KEEP AMERICAN WORKERS SAFE**

Protective Industrial Products is a global supplier and manufacturer of PPE products. We are proud to work with our distribution network across America to provide safety professionals with the right PPE products and solutions. With nearly forty years of experience in PPE and a dedicated team of over 200 highly qualified sales people across America, you can count on us to be there for you.

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### CITATIONS:

1. National Institute of Environmental Health Sciences (NIH) — [https://tools.niehs.nih.gov/wetp/public/hasl\\_get\\_blob.cfm?ID=11206](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=11206)
2. The National Institute for Occupational Safety and Health (NIOSH) — <https://www.cdc.gov/niosh/topics/fentanyl/risk.html>
3. Occupational Safety and Health Administration (OSHA) — <https://www.osha.gov/etools/hospitals/emergency-department/opioids>



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