



South Central Public Health District

Prevent. Promote. Protect.

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VX AS A BIOTERRORISM EVENT

What is VX?

VX is a human-made chemical warfare agent classified as a nerve agent. Nerve agents are the most toxic and rapidly acting of the known chemical warfare agents. They are similar to pesticides (insect killers), called organophosphates, in terms of how they work and what kinds of harmful effects they cause. However, nerve agents are much more potent than organophosphate pesticides. VX is odorless and tasteless and is an oily liquid that is amber in color and very slow to evaporate. In fact, VX evaporates about as quickly as motor oil. VX is not found naturally in the environment.

How is a person exposed to VX?

Following the release of VX into the air, people can be exposed through skin contact, eye contact, or inhalation (breathing in the VX mist). Though VX does not mix with water as easily as other nerve agents, it could be released into water. Following the release of VX into water, drinking contaminated water or getting contaminated water on their skin can expose people to the nerve agent. If food is contaminated with VX, consuming the food could expose a person.

VX exposure primarily occurs through a liquid exposure, but if it is heated to high temperatures it can turn into small amounts of vapor (gas).

After a vapor exposure, a person's clothing can release VX for about 30 minutes, which can lead to exposure of other people. VX is also heavier than air and will sink to low lying areas and create a greater exposure risk.

What are the signs and symptoms of VX exposure?

People may not know they were exposed to VX because it has no odor. If a person is exposed to a low or moderate dose of VX by inhalation, ingestion (swallowing), or skin absorption, they may experience some or all of the following symptoms within second to several hours after exposure:

- Runny nose
- Watery eyes
- Small, pinpoint pupils
- Eye pain
- Blurred vision
- Drooling and excessive sweating
- Cough
- Tightness of chest
- Rapid breathing
- Diarrhea
- Increased urination
- Confusion
- Drowsiness
- Weakness
- Headache
- Nausea, vomiting, and/or abdominal pain
- Slow or fast heart rate
- Abnormally low or high blood pressure

Even a tiny drop of nerve agent on the skin can cause sweating and muscle twitching where the nerve agent touched the skin. Exposure to a large dose of VX by any route may result in these additional health effects:

- Loss of consciousness
- Convulsions
- Paralysis
- Respiratory failure possibly leading to death

Please remember that exhibiting these signs and symptoms without a known exposure to VX does not necessarily mean a person has been exposed.

How can people protect themselves and what should they do if they have been exposed to VX?

Recovery from VX exposure is possible with treatment, but the antidotes available must be used quickly to be effective. Therefore the best thing to do is to avoid exposure:

- Leave the area where the VX was released and get to fresh air. Quickly moving to an area where fresh air is available is highly effective in reducing the possibility of death from exposure to VX vapor.
- If the VX release was outdoors, move away from the area where the VX was released. Go to the highest ground possible, because VX is heavier than air and will sink to low-lying areas.
- If VX was released indoors, get out of the building.

If people think they may have been exposed, they should remove their clothing, rapidly wash their entire body with soap and water, and get medical care as quickly as possible. Below are precautions that should be considered when removing clothing and washing:

Removing and disposing of clothing:

- Quickly take off clothing that has liquid VX on it. Any clothing that has to be pulled over the head should be cut off the body instead of pulled over the head. If possible, seal the clothing in a plastic bag. Removing and sealing the clothing in this way will help protect people from any chemicals that might be on their clothes.
- If clothes were placed in plastic bags, inform emergency personnel upon their arrival. Do not handle the plastic bags.
- If helping other people remove their clothing, try to avoid touching any contaminated areas and remove the clothing as quickly as possible.

Washing the body:

- As quickly as possible, wash any liquid VX from the skin with large amounts of soap and water. Washing with soap and water will help protect people from any chemicals on their bodies.
- Rinse the eyes with plain water for 10 to 15 minutes if they are burning or if vision is blurred.
- If VX has been ingested (swallowed), do not induce vomiting or give fluids to drink.
- Seek medical attention right away. Dial 911 and explain what has happened.

How is exposure to VX treated?

Treatment consists of removing VX from the body as soon as possible and providing supportive medical care in a hospital setting. Antidotes are available for VX. They are most useful if used as soon as possible after exposure.

Where can I get more information about VX?

For more information, contact South Central Public Health District at 734-5900 ext. 239.