



Office of Health Emergency Management

The Facts on PHOSGENE

Because of recent terrorist events, people have expressed concern about the possibility of a terrorist attack involving biological agents such as anthrax, ricin, and smallpox. The Office of Health Emergency Management (OHEM) has prepared several fact sheets to help you understand the different types of biological threats and how they could affect your health.

What is phosgene?

Phosgene is a major industrial chemical used to make plastics and pesticides. At room temperature, phosgene is a poisonous gas. With cooling and pressure, phosgene gas can be converted into a liquid so that it can be shipped and stored. When liquid phosgene is released, it quickly turns into a gas that stays close to the ground and spreads rapidly. Phosgene gas may appear colorless or as a white to pale yellow cloud. At low concentrations, it has a pleasant odor of newly mown hay or green

corn, but its odor may not be noticed by all people exposed. At high concentrations, the odor may be strong and unpleasant. Phosgene itself is nonflammable, but it can cause flammable substances around it to burn. Phosgene is also known by its military designation, "CG."

Where is phosgene is found and how it is used?

Phosgene was used extensively during World War I as a choking agent. Among the chemicals used in the war, phosgene was responsible for the large majority of deaths. Phosgene is not found naturally in the environment. It is used in industry to produce many other chemicals such as pesticides. Phosgene can be formed when certain compounds are exposed to heat, such as some types of plastics. Phosgene gas is heavier than air, so it would be more likely found in low-lying areas.

How could someone be exposed to phosgene?

People's risk for exposure depends on how close they are to the place where the phosgene was released. If phosgene gas is released into the air, people may be exposed through skin contact or eye contact. They may also be exposed by breathing air that contains phosgene. If phosgene liquid is released into water, people may be exposed by touching or drinking water that contains phosgene. If phosgene liquid comes into contact with food, people may be exposed by eating the contaminated food.

How does phosgene work?

Poisoning caused by phosgene depends on the amount of phosgene to which a person is exposed, the route of exposure, and the length of time that a person is exposed. Phosgene gas and liquid are irritants that can damage the skin, eyes, nose, throat, and lungs.

Signs and symptoms of phosgene exposure include:

- Coughing
- Burning sensation in the throat and eyes
- Watery eyes
- Blurred vision
- Difficulty breathing or shortness of breath
- Nausea and vomiting
- Skin contact can result in lesions similar to those from frostbite or burns

Following exposure to high concentrations of phosgene, a person may develop fluid in the lungs (pulmonary edema) within 2 to 6 hours.

Exposure to phosgene may cause delayed effects that may not be apparent for up to 48 hours after exposure, even if the person feels better or appears well following removal from exposure. Therefore, people who have been exposed to phosgene should be monitored for 48 hours afterward.

Delayed effects that can appear for up to 48 hours include the following:

- Difficulty breathing
- Coughing up white to pink-tinged fluid (a sign of pulmonary edema)
- Low blood pressure
- Heart failure

What are the long-term health effects of phosgene exposure?

Most people who recover after an exposure to phos-

gene make a complete recovery. However, chronic bronchitis and emphysema have been reported as a result of phosgene exposure.

How can I protect myself if I have been exposed to phosgene?

Leave the area where the phosgene was released and get to fresh air. If the phosgene release was outdoors, move away from the area where the phosgene was released. Go to the highest ground possible, because phosgene is heavier than air and will sink to low-lying areas. If the phosgene release was indoors, get out of the building.

If you think you may have been exposed, remove your clothing, rapidly wash your entire body with soap and water, and get medical care as quickly as possible.

help protect people from any chemicals on their bodies.

If your eyes are burning or your vision is blurred, rinse your eyes with plain water for 10 to 15 minutes. If you wear contacts, remove them and place them in the bags with the contaminated clothing. Do not put the contacts back in your eyes. If you wear eyeglasses, wash them with

soap and water. You can put the eyeglasses back on after you wash them. If you have ingested (swallowed) phosgene, do not induce vomiting or drink fluids. Seek medical attention right away. Dial 911 and explain what has happened.

How is phosgene exposure treated ?

Treatment for phosgene exposure consists of removing phosgene from the body as soon as possible and providing supportive medical care in a hospital setting. No antidote exists for phosgene. Exposed people should be observed for up to 48 hours, because it may take that long for symptoms to develop or reoccur.

For more information on health emergencies, contact the Office of Health Emergency Management (OHEM) at 505/476-7701 or visit our website at: www.health.state.nm.us/ohem