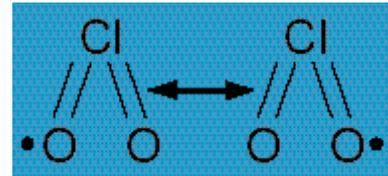


# Chlorine Dioxide

## Trenton, NJ, Processing and Distribution Center



*This is one in a series of Fact Sheets providing information on the anthrax decontamination activities at the Trenton Processing and Distribution Center.*

### What is chlorine dioxide (ClO<sub>2</sub>)?

Chlorine dioxide is a yellow-green gas with an odor similar to chlorine, it is not flammable or explosive in the concentrations that will be used to fumigate the Trenton P&DC. Chlorine dioxide has a long and established history. It has been safely used for more than 70 years to disinfect much of the nation's food and water supply, and is also used at more than 900 water treatment facilities around the world every day.

### What is chlorine dioxide used for?

Chlorine dioxide is safely used in large quantities (4 to 5 million pounds per day) in the United States on a daily basis. It is commonly used for:

- Disinfecting drinking water
- Bleaching pulp used in papermaking
- Treating food products such as flour, spices, shrimp, fruits and vegetables
- Sanitizing food processing equipment
- Odor elimination in industrial scrubbers and fish plants
- Sterilization in biomedical and pharmaceutical applications and of medical equipment.

### How will chlorine dioxide be used at the Trenton Facility?

Chlorine dioxide was selected as the fumigation method for the Trenton P&DC based on tests conducted in October and November 2001 by the EPA, as well as the successful decontaminations of the Hart Senate Office Building and the Curseen-Morris P&DC in Washington, DC, following the fall 2001 anthrax attacks. Chlorine dioxide gas was selected because of its proven track record as the best available technology to decontaminate a

building from anthrax-causing bacteria.

The same contractors that safely and effectively fumigated Hart and the Curseen-Morris facility, Shaw Environmental & Infrastructure, Inc., Ashland Inc. and Sabre Oxidation Technologies Inc. have been selected to conduct the fumigation process.

Additionally, many engineering control systems will be applied during the ClO<sub>2</sub> fumigation process to provide the best environment for a successful and thorough decontamination of the facility. These systems include temperature and humidity control, negative air scrubber system, gas dispersion fans, process control and monitoring systems.

The ClO<sub>2</sub> will be delivered to the site in the form of five separate chemicals and will be mixed on the premises as needed. As the gas is introduced into the building, a sophisticated system of fans will distribute the gas throughout the facility for optimal distribution. The air inside the building will be tested and monitored throughout the process from a control center outside the facility to ensure that the optimal air temperature, relative humidity and chlorine dioxide concentration have been reached in order to kill the anthrax spores. Based on what we've learned from the previous successful fumigations, the ideal conditions to kill the anthrax spores are a temperature of 75 degrees Fahrenheit, a relative humidity of 75 percent and a 750 parts-per-million concentration of chlorine dioxide held for 12 hours.

The entire fumigation process will be controlled remotely via a series of computers and television monitors. When the fumigation is complete, the chlorine dioxide will be neutralized as it goes through a negative air scrubber system that will