



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I

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Boston, Massachusetts 02109-3912

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Dear Drinking Water or Wastewater Treatment Facility Operator:

Does your drinking water or wastewater treatment plant use large quantities of **chlorine gas**? If so, you may be required to comply with federal requirements to ensure that the **chlorine** is managed safely. The U.S. Environmental Protection Agency (EPA) has visited numerous drinking water and wastewater treatment facilities in New England to determine compliance with the Clean Air Act's chemical accident prevention requirements and found that many facilities were not managing their **chlorine gas** in a safe manner.

Due to employee turnover, some of these facilities have completely forgotten about their compliance obligations. Violations can result in significant penalties, which EPA would like to help you avoid by providing you with compliance information. You are encouraged to revisit your facility's chemical planning, management, and preparedness practices to ensure that you are in compliance with federal requirements for handling chemicals safely. Please be aware that your facility may be subject to other federal environmental laws.

Clean Air Act (CAA) Section 112(r)(7): Risk Management Program (40 C.F.R. Part 68)

Requires facilities that use specified quantities of certain regulated chemicals (such as chlorine gas) in a "process" (such as in use or storage) to develop and implement a Risk Management Program. For example, the **threshold for chlorine is 2,500 pounds**. Among other requirements, facilities must:

- Analyze the worst-case release scenario to determine the potential effects of a release;
- Complete a five-year accident history;
- Implement an accident prevention program that includes operating procedures, maintenance, and other actions;
- Coordinate response actions with the local emergency response agencies; and
- Submit to EPA a Risk Management Plan (RMP), which is a summary of the Program, updating the plan every five years or as changes occur.

The chlorine-containing chemical most commonly subject to RMP requirements is **chlorine gas**. Sodium hypochlorite is not subject to RMP requirements.

There are different levels of Risk Management Programs. "Program 1" facilities are those that have no history of accidental releases affecting the offsite public and where the estimated worst case release from the facility could not reach the public. Facilities that have had or could have releases that could reach the public, also known "Program 2" and "Program 3" processes, have additional requirements. For example, they must:

- Conduct an analysis to identify and resolve hazards associated with the process, which must be updated every five years;
- Have a release prevention program, with requirements to (a) compile process safety information about the chemicals, equipment, and applicable industry standards and ensure compliance with such standards; (b) use safe operating procedures; (c) train employees; (d)

- maintain equipment; (e) conduct compliance audits every three years; and (f) investigate incidents. There are some additional requirements for Program 3 processes; and
- Comply with more comprehensive emergency response planning requirements.

Most drinking water and wastewater treatment plants that use gaseous chlorine fall into either Program 2 or Program 3. The OSHA delegation of your state can influence whether or not your facility's chlorine process is subject to Program 2 or Program 3.

CAA Section 112(r)(1): General Duty Clause

Requires owners and operators of facilities that have regulated chemicals and other extremely hazardous substances in any amount to manage their chemicals safely. They must:

- Identify hazards which may result from accidental releases of such substances, using appropriate hazard assessment techniques (such as a "What-if" analysis);
- Design and maintain a safe facility, taking steps necessary to prevent releases; and
- Minimize the consequences of accidental releases that do occur.

Some points to remember about the General Duty Clause (GDC):

- The GDC applies to many chemicals. It is not limited to the chemicals subject to the RMP regulations;
- The GDC applies facility-wide, regardless of the amount of chemical stored; and
- In analyzing the standard of care, EPA consults industry standards, codes, and practices. The standards that EPA frequently relies on for drinking water and wastewater treatment plant facilities include Chlorine Institute guidelines, OSHA SDS sheets, and labeling information for chlorine that is mandated by pesticide laws, which can provide information about safe handling of the chemical.

Some Problems Observed at Drinking Water & Wastewater Treatment Facilities

- No Risk Management Plan or not implementing the Plan;
- Forgetting to update the Plan, including failure to conduct compliance audits and update analyses of the hazards associated with the process;
- Improper storage of chlorine gas cylinders, such as cylinders being stored outside and unprotected;
- Piping not labeled;
- Failure to test and calibrate chlorine detectors;
- Storage of incompatible materials (e.g., chlorine and ammonia) together;
- Lack of training/training records;
- Modifications to chlorine systems not done according to industry standards;
- Unreported chemical releases;
- Failure to conduct proper equipment maintenance; and
- Dangerous emergency response practices, such as removing leaking tanks without proper training or equipment.

Please refer to the attached Resources list for more information.

Sincerely,



Mary Jane O'Donnell

U.S. Environmental Protection Agency – Region I
Office of Environmental Stewardship
RCRA, EPCRA and Federal Facilities Unit

Resources

The Chlorine Institute

- www.cl2.com/

CAA Section 112(r) Risk Management Program

- "Clean Air Act Section 112(r): Accidental Release Prevention/Risk Management Plan Rule" fact sheet
www.epa.gov/emergencies/docs/chem/caa112_rmp_factsheet.pdf
- General Risk Management Program Guidance
www.epa.gov/emergencies/content/rmp/index.htm
- Determining Offsite Consequences of Releases
<https://cdxnodengn.epa.gov/cdx-rmp-maintain/action/rmp-comp>
- Risk Management Program Guidance for Wastewater Treatment Plants
<http://www.epa.gov/emergencies/docs/chem/Appendix-F1.pdf>
- RMP Information Center
Tel: (800) 424-9346

CAA Section 112(r) General Duty Clause

- "The General Duty Clause" fact sheet
www.epa.gov/emergencies/docs/chem/gdc-fact.pdf
- Guidance for Implementation of the General Duty Clause
www.epa.gov/emergencies/docs/chem/gdcregionalguidance.pdf

On-line tool for understanding the properties and safe handling of thousands of chemicals, including incompatibility with other chemicals

- <http://cameochemicals.noaa.gov/>