

**RULE 429.1 - Cooling Towers (Hexavalent Chromium) - Adopted 7/13/92**

**I. Applicability**

Requirements of this Rule shall apply to any person who owns or operates, or who plans to build, own, or operate, a cooling tower in which the circulating water is exposed to the atmosphere and to any person who sells or offers for sale cooling tower water treatment chemicals.

**II. Definitions**

- A. Hexavalent Chromium/Chromate: a metallic substance existing as part of various inorganic chromate compounds, for example, sodium dichromate or lead chromate.
- B. Cooling Tower: a device evaporating circulating water to remove heat from a process, a building, refrigerator, etc. transferring the heat to atmosphere.
- C. Water Treatment Chemicals: any combination of chemicals added to cooling tower water including, but not limited to, corrosion inhibitors, antiscalants, tracers, dispersants, and biocides.
- D. Wooden Cooling Towers: any cooling tower containing wood components exposed to circulating water.

**III. Exemptions**

- A. If cooling tower circulating water has:
  - 1. hexavalent chromium concentration levels less than 0.15 mg/l as determined by Subsection V.C.1, or
  - 2. never had hexavalent chromium containing compounds added,the cooling tower shall be exempt from the provisions of this Rule except for Subsections IV.B.1., V.A., and VI. The owner/operator of a cooling tower seeking an exemption pursuant to this subsection shall submit to the Control Officer a compliance plan, as prescribed in Subsection V.A., demonstrating compliance with the requirements of this subsection.
- B. Cooling devices commonly known as evaporative coolers or swamp coolers, whose operating principle is based on cooling air subsequently used to cool a building, residence, or other occupied area, are exempt from the provisions of this Rule except for Subsection IV.B.1.

- C. Any cooling tower in which the circulating water is completely contained and not exposed to the atmosphere is exempt from the provisions of this Rule.

#### IV. Requirements

- A. No person shall sell any water treatment chemical containing chromate for the purpose of adding it to water in a cooling tower.
- B. No person shall operate any cooling tower unless the following requirements are met:
  - 1. No hexavalent chromium containing compounds shall be added to cooling tower circulating water, effective September 1, 1992; and
  - 2. Wooden Cooling Towers: No person shall operate a wooden cooling tower unless the following requirements are met:
    - a. By December 1, 1992, hexavalent chromium concentration levels in the circulating water shall not exceed 8.0 milligrams per liter (mg/l); and
    - b. By June 1, 1993, hexavalent chromium concentration levels in the circulating water shall not exceed 0.15 mg/l; and
    - c. Between December 1, 1992, and June 1, 1993, hexavalent chromium concentration levels in the cooling water shall decrease each month.
  - 3. Non-Wooden Cooling Towers: By December 1, 1992, no person shall operate a non-wooden cooling tower unless the hexavalent chromium concentration levels in circulating water do not exceed 0.15 mg/l.

#### V. Administrative Requirements

- A. Reporting
  - 1. By September 1, 1992, any owner/operator of a cooling tower shall submit to the Control Officer a compliance plan including items "a" through "f" below. After September 1, 1992, and operator/owner of any newly constructed cooling tower not subject to permitting requirements of Rule 201 shall submit a compliance plan to the Control Officer including the following information at least 90 days before the tower is operated.
    - a. Name, address, and phone number of owner/operator,
    - b. Location of cooling tower,

- c. Cooling tower type and materials of construction,
- d. Statement regarding use or non-use of chromate in cooling tower,
- e. Statement when chromate will be discontinued if currently utilized, and
- f. Current hexavalent chromium concentration level in circulating water.

B. Recordkeeping

Any person subject to Subsections IV.B.2. and IV.B.3. shall:

- 1. Maintain records of all circulating water tests performed pursuant to Subsections V.C. and V.D. These records shall be retained for at least two years and shall be made available to the Control Officer upon request.
- 2. By July 1, 1993 and annually thereafter, submit to the Control Officer the following:
  - a. Results of all circulating water tests performed pursuant to Subsections V.C. and V.D.,
  - b. Name and address of laboratory performing tests, and
  - c. Dates samples were collected and analyses were performed.

C. Test Methods

- 1. Compliance with hexavalent chromium concentration limits shall be determined by American Public Health Association Method 312B.
- 2. An owner/operator shall notify the Control Officer 48 hours in advance of any sampling of cooling water for testing, and allow the Control Officer to take a simultaneous sample, if requested.

D. Monitoring

- 1. Wooden Cooling Towers:
  - a. From December 1, 1992 until June 1, 1993, any person subject to Subsection IV.B.2.a. shall test circulating water at least once each month to determine concentration of hexavalent chromium.
  - b. After June 1, 1993, any person subject to Subsection IV.B.2.b. shall test

circulating water at least once every six months to determine concentration of hexavalent chromium.

2. Non-Wooden Cooling Towers: after December 1, 1992, any person subject to Subsection IV.B.3. shall test circulating water at least once every six months to determine concentration of hexavalent chromium.
3. Testing may be discontinued, and exemption sought pursuant to Subsection III.A., when two consecutive required tests show hexavalent chromium concentrations less 0.15 mg/l.
4. The Control Officer reserves the right to require testing of circulating water at any time, to confirm the water does not contain hexavalent chromium in excess of 0.15 mg/l.

## **VI. Permits**

Unless exempted by Rule 202, existing cooling towers subject to requirements of this Rule shall apply for District Permit to Operate by September 1, 1992; and new cooling towers subject to the provisions of this Rule shall apply for and obtain Authority to Construct prior to commencing construction.