

Tribal Drinking Water Training Series, Course 8: Basic Corrosion Control Treatment

Drinking water operators need an understanding of all the requirements of the Lead and Copper Rule (LCR) and how to optimize their corrosion control practices. This course will provide that understanding and has opportunities for hands-on practice selecting corrosion and scaling control options.

Basic Corrosion Control Treatment (6-hour block)

Training Objectives and Learning Outcome:

This 6-hour, in-person course will focus on the basics of corrosion control treatment optimization and provide the latest information on how to assess your system and avoid unintended exceedances. The upcoming lead and copper regulations related to optimal corrosion control treatment will be discussed. We will cover the benefits of determining corrosion indexes and examine water quality issues like pH, temperature, total dissolved solids, hardness, and alkalinity. Disinfection (type/residual), distribution piping, flushing schedules, treatment process, and electrical grounding all play a major role in total system corrosion. This course will also review the effect of changing treatment or adding new chemicals to meet these requirements. Finally, this course will review some cases studies related to unintended consequences that have occurred where systems that normally do not have corrosion issues are experiencing lead and copper exceedances.

Attendees will learn:

- Basic elements of the Lead and Copper Rule (LCR)
- About various types of corrosion control treatment processes
- How water quality parameters contribute to corrosion or scaling
- How to evaluate different corrosion control treatment recommendations
- How to select corrosion treatment to minimize lead and copper
- About resources available to help prepare public education materials for lead exceedances

Agenda:

- 08:30-08:45: Introduction and agenda
- 08:45-09:00: Pre-test
- 09:00-09:45: Pb/Cu rule overview (45 min)
- 09:45-09:55: Break (10 min)
- 09:55-10:10: Pb/Cu rule review exercise (15 min)
- 10:10-10:15: Pb/Cu monitoring waivers (5 min)
- 10:15-10:35: Pb/Cu Rule quick reference guide group exercise (20 Min)
- 10:35-10:50: Basic chemistry (15 min)
- 10:50-11:00: Break (10 min)
- 11:00-12:00: Corrosion and Scaling Chemistry (60 min)
- 12:00-13:00: Lunch (60 min)
- 13:00-13:15: Post-lunch opener (15 min)
- 13:15-13:45: Selecting corrosion and scaling control options (30 min)
- 13:45-13:55: Microbial corrosion control and non-treatment options (10 min)
- 13:55-14:10: Treatment selection exercise (15 min)
- 14:10-14:20: Break (10 Min)

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- 14:20-15:20: Flint, MI water crisis case study deep dive (60 min)
- 15:20-15:30: Break (10 min)
- 15:30-15:45: Flint, MI water crisis video (15 min)
- 15:45-16:15: Corrosion Control Jeopardy (30 Min)
- 16:15-16:30: Posttest, session wrap-up, evaluations (15 min)
- 16:30: Adjourn, 6 hours of content excluding breaks and lunch