Ice Making Machines Sample Collection Procedures

Lead in Drinking Water at Schools & Child Care Facilities Program

How to Collect Samples:

- Make sure you have clean hands.
- Complete the sample recording form.
- Only use containers (250 milliliter) supplied by your certified lab.
- Containers should not be opened until you are ready to collect the sample.
- Sampling containers that have been compromised in any way, e.g., by being touched on the threads or the interior surfaces, must not be used.
- Keep food and drink away from the sample and its container.
- Collect one sample per ice maker.

Initial Screening Sample (A): Fill a suitable container (250 mL [or larger with a line denoting 250 ml], wide-mouthed bottle or other container) provided by the laboratory at least three-quarters full of ice.

- Do not touch the ice with your hands.
- Use a non-metal scoop or disposable plastic gloves (provided by the laboratory) to place the ice in the container.

If the lead level in Sample A exceeds 15ppb (MassDEP Action Level), collect a follow-up sample to determine if the source of the lead is the plumbing or the ice making machine itself.

Follow-Up Sample (B): Disconnect the ice maker from the plumbing and look for a screen at the inlet. Remove the screen. *If debris is present on the screen*, forward a sample (Sample C) of the debris in a "new/unused" zip lock bag to the laboratory for analysis and clean out the remaining debris (on the screen or behind the screen in the pipe).

Collect a sample (B) from the disconnected plumbing as close to the ice maker as possible. If a sample tap or valve is available the sample can be obtained from the sample tap, collect the sample immediately after opening the tap or valve (B). Fill the sample container with 250 mL of water. After taking Sample B, flush the piping for thirty seconds and then fill a second sample container with 250 mL of water (Sample D - Instruct the lab to test Sample D only if Sample B is greater than 15ppb).

If no tap is available, contact the ice maker manufacturer for recommendations that will minimize disruption of existing plumbing. Adding taps or valves could add new sources of lead to the plumbing, even if the new devices are "lead-free" and meet NSF Standard 61, section 8 standards.

Interpreting Test Results:

- If the lead level in Sample B is < (less than or equal to) 5 ppb and the level of lead in Sample A is < (greater than or equal to) 15mg/l, the source of the lead in the ice is the ice maker.
- If the lead level in Sample B significantly exceeds 5 ppb (10 -15 ppb), the plumbing upstream from the ice maker is also contributing to the lead in the ice.
- If the lead level in Sample B exceeds 15 ppb, MassDEP recommends collecting follow-up flush samples from the distribution system supplying water to the ice maker (at Sample point B unless already collected). Refer to Exhibit below
- *If the flush sample (D) is less than or equal to 5 ppb, then a flushing program should be instituted.*
- If the lead level in Sample C determines that lead solder is present which is contributing to the results found in Sample A then:
    - If debris is found on the screen, clean the screen routinely to avoid accumulations of debris.
    - If debris is not found on the screen, it should be checked at least twice a year for debris.