

Industry Plant Sampler Study Guide

Tanker sampling done at a milk plant receiving station is important to the company, to the regulatory agency and to the dairymen whose milk is contained in the tanker. The sample that is collected must be representative of all the milk contained in the milk tanker. This sample is used to determine if the milk is contaminated with drug residues. Industry Plant Samplers are required to be evaluated and licensed by the Washington State Department of Agriculture. It is the duty of the licensed Industry Plant Sampler to obtain a sample which will accurately reflect the contents without contaminating the remainder of the milk in the tanker.

In order to assure that samples are correctly obtained and are an accurate representation of the load, Standard Methods for the Examination of Dairy Products reference manual outlines procedures to be used in the sampling of over the road milk tankers. The samples which you will be taking will be mainly those required under Appendix N (Drug Residue Testing and Farm Surveillance) of the Pasteurized Milk Ordinance or samples required by your company's quality control program.

Sampling Equipment

1. Thermometer. Must be checked for accuracy against reference thermometer initially and every 6 months (semi-annually) thereafter. Thermometers must be accurate to within $\pm 2^{\circ}\text{F}$ ($\pm 1^{\circ}\text{C}$). Each thermometer must be tagged for identification, the date checked, the temperature at which it was checked and any correction factor. Records of thermometer accuracy must be maintained.
2. The sampling instrument is most often a seamless stainless steel dipper. Other sampling instruments may include spoons, syringes and tubes. The sampling instrument should be easily cleanable, sterilizable and sanitizable.
3. Sterile sample container.
4. If the sample is not to be tested immediately, a means to maintain the sample at $32^{\circ}\text{-}40^{\circ}\text{F}$ ($0\text{-}4.4^{\circ}\text{C}$) or less must be provided. This includes a sampling container (cooler) or refrigerator. Reusable gel packs (blue ice) or an ice-and-water mixture are sufficient means of keeping samples cooled. Take care not to completely submerge samples below an ice-and-water mixture when using a cooler.
5. A storage container for the sampling instrument tall enough to cover at least the length of the handle which will be inserted into the milk containing a water and chlorine solution not exceeding 200 ppm chlorine (sanitizing solution contact time to sampling instrument at least 1 minute) or a water and iodine solution containing 25ppm iodine sanitizer or 70% isopropyl alcohol. This solution needs to be tested every 12 hours and replaced with clean solution if it becomes cloudy or the strength drops below acceptable levels. Sanitizer test strips are available for use to verify the strength of the sanitizing solution.

Sampling Procedures

When weather and environmental conditions permit, manhole openings and covers of milk tank trucks may be opened outdoors for the short period of time necessary for the collection of samples for animal drug residue screening.

1. Protect sampling instruments from exposure to contamination before and during use. Handle sample containers and caps aseptically maintaining sterility. Do not drop, lay down or touch the inside of, or otherwise contaminate sterile containers. Do not carry sample containers in your pocket.
2. Wash and dry hands.
3. Check the temperature of the milk.
4. A second sample is required for a temperature control (TC). Temperature control samples are to be collected at each sampling point for raw milk in dairy plants and each over-the-road tanker. Temperature control samples must be labeled with the time, date, temperature at time of collection and the name or initials of the person collection the sample.
5. Collect tanker samples. Open manhole lid, rinse sample dipper in the milk twice to remove any traces of sanitizer. Dipper should extend 6 to 8 inches into milk to obtain a representative sample. Insert dipper into milk and then holding the sample container away from the manhole, fill the container about 3/4 full. Close the lid of the sample container taking care not to touch the inside of the lid. Identify sample with date, time, temperature and sampler ID.
6. Rinse the sample dipper with cool water and replace in to the sanitizing solution for storage.
7. Follow company's policy on testing of sample for drug residue.