



State of Alaska
Department of Environmental Conservation
Division of Environmental Health
Office of the State Veterinarian (OSV)
5251 Dr. MLK Jr. Avenue,
Anchorage, AK 99507
Phone: (907) 375-8215 Fax: (907) 929-7335
<http://dec.alaska.gov/eh/vet>



HOW TO SAFELY COOL YOUR PRODUCT



Improper cooling can allow bacteria to grow or toxins to be produced. This can lead to foodborne illness. Follow the Do's and Don'ts of cooling to help prevent foodborne illnesses.

- **DO:**
 - Cool to 40F within two hours of the start of milking
 - Ensure there is adequate air circulation around containers
 - STIR frequently for fast, even cooling
 - Cool in small portions and shallow containers (less than two inches thick)
 - Monitor temperatures and times
 - Keep records
 - Use water or ice baths and cooling wands
- **DON'T**
 - Cover. Covering traps heat
 - Overload the capacity of refrigeration units or freezers
 - Use refrigeration as the main cooling method



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TAKING TEMPERATURES



Thermometer types: metal stem thermometer, digital thermometer, or thermocouple unit to monitor temperatures.

- **Clean and Sanitize:** Clean the probe and then sanitize with a single-use alcohol wipe or other approved sanitizer to prevent contaminating the product.
- **Insert the probe into the product:** the center, or the thickest part.
- **Metal Stem Thermometer with Dial:** Place in the milk or milk product up to and just past the dimple in the stem.
- **Metal Stem Thermometer with Digital Readout:** Place $\frac{3}{4}$ inch of the stem in the milk or milk product.
- **Thermocouple:** Will register temperature at the tip of the probe.



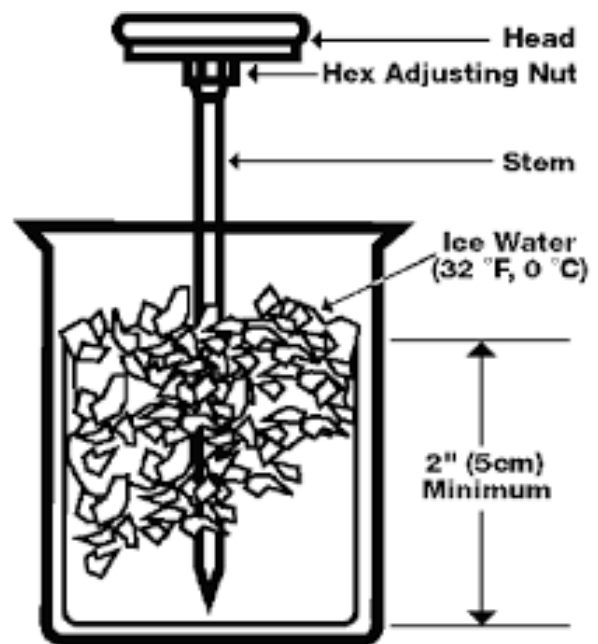
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CALIBRATING YOUR THERMOMETER

Thermometers get bumped and jarred frequently, causing them to get out of adjustment. Calibrating thermometers needs to be done frequently to maintain accuracy. Once a week, or after a thermometer is dropped:

1. Fill a glass with half ice and half water.
2. Place the thermometer in the glass and stir.
3. Allow the thermometer to stabilize for approximately three minutes.
4. If the thermometer reads between 30F and 32F, it is okay to use.
5. If the thermometer does not read between 30F and 32F and has an adjustment nut (found on dial thermometers): leave the stem in the ice water and use pliers or a wrench to turn the nut until the needle on the dial points to 32F. Wait three minutes and see if it still reads 32F. If it does not, adjust the nut until it does.
6. If the thermometer cannot be adjusted and does not read 32F, it should be thrown away and replaced.



Consult the manufacturer's directions for thermometers with digital readouts and thermocouples. A thermometer which reads 0F – 220F is recommended.



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CROSS-CONTAMINATION

Cross-contamination happens when microorganisms (bacteria, viruses, parasites) are transferred from food, equipment, or people to food.

- **PREVENTION**: Preventing the transferring of germs from soiled hands, utensils, or equipment to clean equipment or food relies on procedures followed. Practice good hand hygiene. Examine all stages of the process, the order things are done, the route milk takes and how it is handled. Identify areas where there is potential for cross-contamination and ways to make the process safer – from milking to bottling.
- **EQUIPMENT**: Wash, rinse, and sanitize between use and replace as needed. Equipment should be made of easily cleanable food-grade material with smooth, impervious surfaces. Buildup in cracks and crevices can host bacterial growth, contaminating equipment and milk.
- **SEPARATION**: How and where activities take place can reduce or prevent cross-contamination. Keeping separate areas for different activities minimizes chances for contamination.
- **FOOT TRAFFIC**: Separation between different areas in the facility can be breached by dirt or manure on shoes or clothing. Foot traffic through the milk processing room should be limited. Clean shoes and clean clothes should be worn when bottling. Milk sales should take place in a separate area to reduce foot traffic and potential contamination.
- **PESTS**: Measures should be taken to prevent contamination of milk, containers, utensils, and equipment by insects and rodents, and chemicals used to control such pests. Surroundings should be kept clean, neat, and free of conditions that might harbor or be good for the breeding of insects and rodents. Screens and self-closing tight doors can help prevent pests.



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CLEANING AND SANITIZING

Food contact surfaces, utensils, and equipment should be thoroughly cleaned and sanitized after each use. Standard operating procedures should be developed for cleaning and sanitizing. Using a three-compartment sink (one compartment for washing, one for rinsing, and one for sanitizing) is best practice and reduces the potential for cross-contamination.

1. **PRE-RINSE** by removing excessive, visible food soil with lukewarm water, approximately 100-120F. Disassemble all parts that must be hand washed.
2. **WASH** by mixing soap or detergent according to the manufacturer's instructions. If manually cleaning equipment, soak all parts at 120-135F for 5 minutes, brush with a brush or cleaning pad. Follow manufacturer's instructions for Clean-in-Place and Clean-out-of-Place systems.
3. **RINSE** with clean, warm water, or an acidified acid rinse if needed to remove detergent. Repeat wash step again as needed. Only clean surfaces can be properly sanitized. Acid rinse chemicals should be mixed and circulated in lukewarm water according to the manufacturer's directions.
4. **SANITIZE** in water with a food safe sanitizer, such as chlorine or quaternary ammonium-based sanitizers. Follow label directions. Do not rinse after sanitizing.
5. **AIR DRY** by positioning all items to drain and dry completely. Avoid stacking. After sanitization, containers, utensils, and equipment should be handled in a manner to prevent contamination.





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MAKING A SANITIZER

- **Bleach Solution:**
 - To make 200 parts per million (ppm) solution:
 - One tablespoon of unscented household bleach (5.25% concentration) per gallon of water, or
 - Two teaspoons of unscented household bleach (8.25% concentration) per gallon of water.
 - Use chlorine test strips to check the concentration.
- **Quaternary Ammonia (QUAT):**
 - Read label directions or check with your supplier.
 - Use appropriate quat test strips to check the concentration.
 - Aim for 200 – 400 parts per million (ppm).
- **How to Use a Sanitizer:**
 - **In a labeled spray bottle:**
 - Spray, wait 30 seconds, wipe with a clean paper towel.
 - Make fresh sanitizer at least once a day.
 - **In a labeled bucket:**
 - Keep a cleaning wiping cloth in the solution.
 - Wring out the cloth and wipe down the surface.
 - Let the surface air dry.
 - Use different buckets for food-contact surfaces and non-food contact surfaces.
 - Make a new sanitizer often – dirty sanitizers do not kill germs.



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HAND HYGIENE



Washing hands can help prevent the spread of: *Norovirus*, *Salmonella*, *Shigella*, *E. Coli* 0157:H7, *Hepatitis A*, and *Staphylococcus aureus*. Gloves are NOT a substitute for handwashing.



How to Wash Hands

- Use warm water
- Wet hands and exposed arms and apply hand soap.
- Rub hands and forearms briskly for at least 20 seconds.
- Rinse under warm water and turn off water with paper towel.
- Towel dry with disposable towels or hot-air drying device.

When to Wash Hands

- Before starting work and upon entering a food preparation area.
- After removing gloves and before putting on gloves.
- After using the restroom.
- After coughing, sneezing, or touching your hair, face, or body.
- After eating, drinking, smoking, or chewing gum.
- After cleaning or taking out the garbage.
- After touching anything that contaminates the hands.

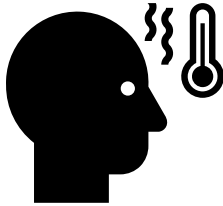
Glove Use

- Does NOT replace the need for good handwashing practices.
- Wash hands before putting on gloves.
- Use gloves for one task, then discard.
- If an interruption occurs, remove gloves and discard.
- Dispose of gloves upon removal. Discard when soiled or damaged.
- Use clean gloves when you resume food preparation.

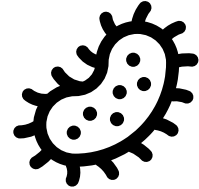


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EMPLOYEE ILLNESS



Exclude employees from the facility when diagnosed with or experiencing:

- Diarrhea
- Vomiting
- Fever
- Jaundice
- Sore throat with fever
- Open cuts or infected wounds
- *Salmonella*
- *Shigella*
- *E. Coli* 0157:H7
- *Hepatitis A*
- *Norovirus*
- Contact with anyone who has *Salmonella typhi*, *E. Coli* 0157:H7, *Hepatitis A*, or *Norovirus*

Are you experiencing vomiting and/or diarrhea?

- **GO HOME.** Do NOT return to work for at least 24 hours after symptoms end.
- Report symptoms to the person in charge

Does someone in your household have vomiting and/or diarrhea?

- **Work with Precautions.** Reinforce handwashing, avoid bare-hand contact with ready-to-eat foods or clean dishes. Go home at first sign of vomiting and/or diarrhea.