

# Thermometer Calibration

## Freezing point method

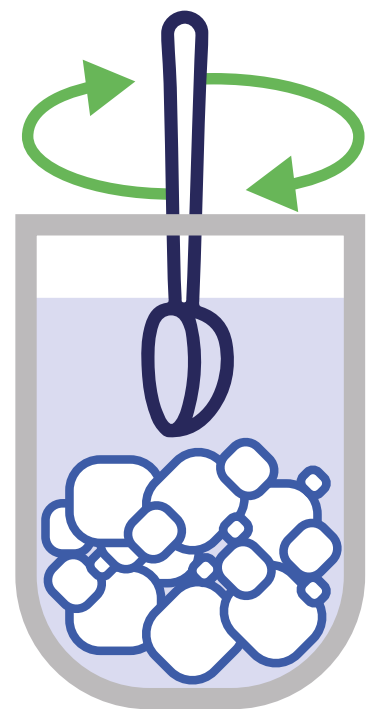
Otherwise known as the ice point method, this technique is commonly performed for thermometers that are used to measure low temperatures. Calibration must be performed regularly to ensure accurate temperature readings.

This method is performed as follows:



1

Fill a glass that is large enough to accommodate the thermometer probe with crushed ice.



2

Add distilled water or soft water into the glass and stir the ice water mixture.



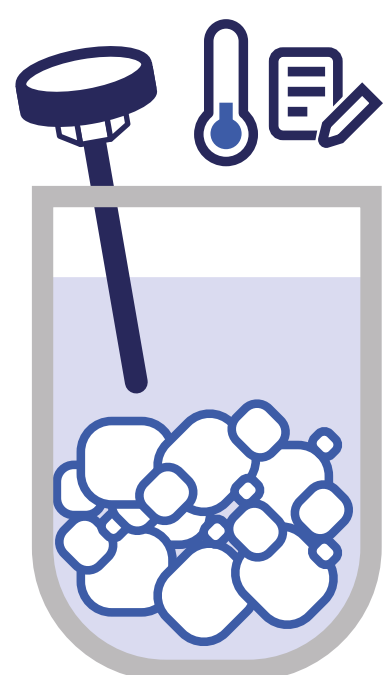
3

Submerge the thermometer probe up until the immersion mark without touching the bottom of the glass. Wait for at least 30 seconds or until the temperature reading becomes stable.



4

If the temperature readings are not the same, ideally 32°F (0°C), adjust the nut until the reading is correct\*.



5

Reread the temperature of the ice water solution using the calibrated thermometer at least two to three times and record results on a logbook. Wash the thermometer with room temperature water in between readings.

\*For non-adjustable thermometers, an offset value sign can be placed on the thermometer dial as a note. That is, if the temperature reading is 2° higher than the expected reference value, all succeeding readings after calibration must be deducted by 2°.



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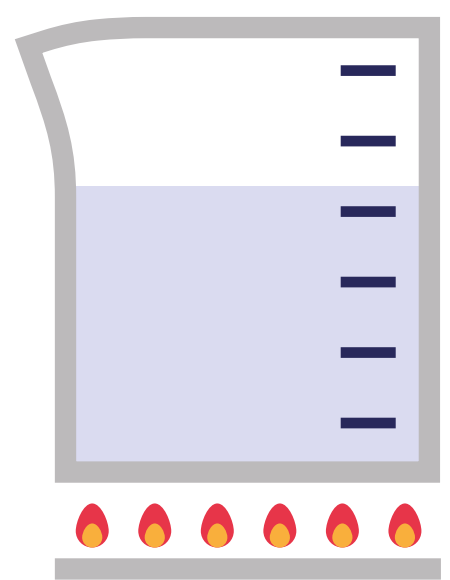
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# Thermometer Calibration

## Boiling point method

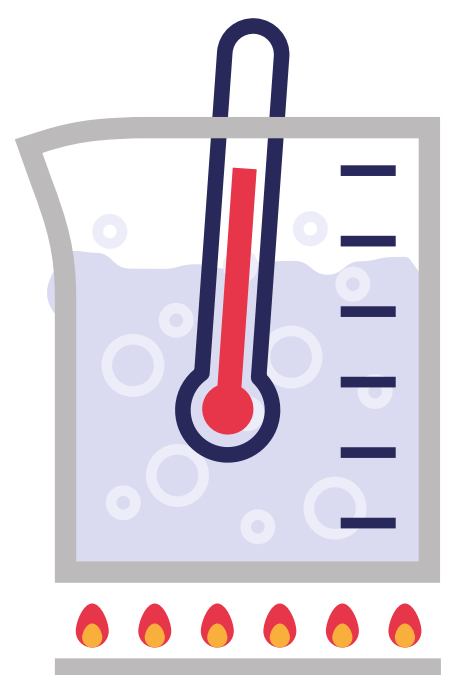
The boiling water method is used for thermometers that are **utilized for measuring high temperatures**. Calibration must be performed regularly to ensure accurate temperature readings.

This method is performed as follows:



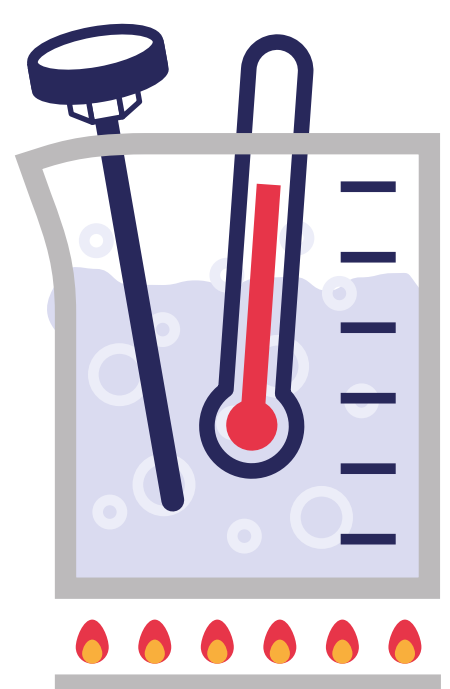
1

Fill a deep pan or a glass beaker with distilled water and boil over medium heat.



2

While the water is boiling, place a previously calibrated thermometer into the water and allow it to read the temperature.



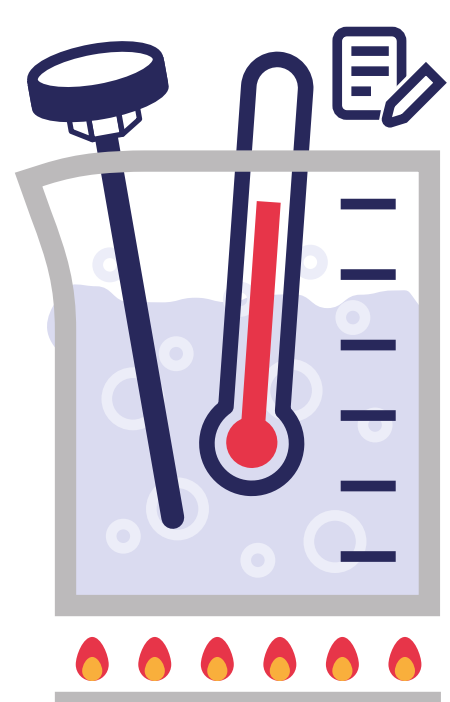
3

After 30 seconds or once stable, place the thermometer being calibrated and read the temperature measurements. Do not let both thermometers touch the bottom of the pan or glass.



4

If the temperature readings are not the same, ideally 212°F (100°C), adjust the nut until the reading is correct\*.



5

Reread the temperature of the boiling water using the calibrated thermometer at least two to three times and record results on a logbook. Wash the thermometer with room temperature water in between readings.

\*For non-adjustable thermometers, an offset value sign can be placed on the thermometer dial as a note. That is, if the temperature reading is 2° higher than the expected reference value, all succeeding readings after calibration must be deducted by 2°.



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