

Best Practices: A Guide to Data Loggers

Who should use a data logger? All storage units that contain COVID-19 vaccine should have a data logger continuously recording temperatures.

What does a data logger do? A data logger is an electronic device that records temperature data over time.

Why do I need to have a data logger? A data logger provides more accurate and comprehensive monitoring of temperatures of which vaccines have been exposed. Using a data logger may reduce vaccine loss by providing necessary data when the vaccine would otherwise be lost. Here's a list of temperature monitoring devices that are not recommended to monitor vaccine:

- Thermometers including alcohol or mercury thermometers, even if placed in fluid-filled bio-safe liquid vial
- Bi-metal stem temperature monitoring devices
- Food temperature monitoring devices
- Household mercury temperature monitoring devices
- Chart recorders
- Infrared temperature monitoring devices

Why do I need a back-up data logger? Having a back-up data logger on site assures that there will not be any unmonitored COVID-19 vaccine. Here's when to activate the back-up data logger:

- If the operation of the primary data logger fails,
- To monitor the temperature of vaccine that is moved during an emergency, and
- When the primary data logger is sent for recalibration.

What are some of the data logger recommendations? Each data logger should have a detachable probe that is placed in buffered material, to closely replicate the temperature of the vaccine:

- A vial filled with liquid (glycol, ethanol, glycerin)
- A vial filled with loose media (sand, glass beads)
- A solid block of material (Teflon[®], aluminum)

What is a data logger certificate of calibration? Each data logger must have a valid certificate of calibration, also known as a Report of Calibration. All certificates of calibration are required to contain:

- Model number, Serial number, and Date of calibration
- Measurement results that indicates the unit passed the test and the documented uncertainty is within suitable limits (recommended uncertainty is +/-1F +/-0.5C) and
- A statement indicating that it meets International Organization for Standardization/International Electronic Commission (ISO/IEC) 17025 standards.

Data Logger Company CERTIFICATE OF CALIBRATION

Certificate Information:
Certificate Number: C-13-04-16-019
Calibration Technician: S. Perez
Calibration Date: 2013-04-26
Next Calibration Due: 2014-04-26

Accuracy:
Range:
Resolution:

Channel 1 - All ga.
Point: 25
Actual: 25
Initial Cal.: 0
Offset: 0

Device Error: 0

Issued By: _____ Date: 2013-04-26
Approved By: _____ Date: 2013-04-26

Maintaining Calibration:
The product is manufactured from the highest quality components. The unit has been designed to remain within its specifications during normal use. However, the length of its tolerance service can be affected by low battery voltage, age, temperature, humidity, shock, and other environmental influences. For those users with critical performance or validation requirements, MidgeTech, Inc. recommends that the unit be serviced and calibrated at regular periodic intervals.

Certificate Number: C-13-04-16-019
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When should the data logger data be read? DSHS recommends the following best practices for vaccine temperature monitoring using a data logger:

- Check, record, and initial all refrigerator, freezer, and ultra-cold unit temperatures, twice each work day.
- Record the minimum/maximum temperatures for each unit, once daily, at the beginning of each business day.
- Do NOT round up or down, record only the numbers left of the decimal point. Do NOT convert from Celsius to Fahrenheit or Fahrenheit to Celsius.
- Must be posted on each TVFC/ASN vaccine storage unit door or nearby in a readily accessible and visible location.

Where should the data logger temperature display be placed? Data loggers should have an active temperature display that can be easily read by all staff from the outside of the unit, without having to open the door. The display must show:

- the current temperature
- minimum and maximum temperatures
- a low battery indicator
- an alarm to indicate when a temperature excursion has occurred.

Where does the data logger probe go? The data logger probe should be carefully placed inside the unit. Here are some quick do's and don'ts for data logger probe placement:

Data Logger Do's:

- Place the probe as close to the vaccine as possible, in the center of the unit
- Keep the probe away from walls, ceilings, cooling vents, doors, floor and back of the unit.

Data Logger Don'ts:

- Suspended data logger probe from wire shelves in the unit
- Suspended data logger probe by tape or other means attached to the inside ceiling of the unit.

