Keeping Your IsoLight Healthy

Ensure your IsoLight continues to function at optimal efficiency with routine maintenance

In this Technical Note we outline:

- Why instrument cleaning is important
- When to perform cleanings
- What to check with performing cleaning runs
- Cleaning product information

Prep, Run, Analyze

Why is Instrument Cleaning Important?

As with all fluidics-based systems, routine maintenance is necessary to ensure that your IsoLight continues to function at optimal efficiency.

When is it Necessary to Perform Cleanings?

Within a 2-week time period, if the instrument will be idle or if experiments with less than 8 chips are run, it is necessary to complete a maintenance cleaning. Deep cleans must be performed monthly. A preventative maintenance visit by an Bruker representative is required once annually.

What to Check When Performing Cleaning Runs

CO_2 Supply: Ensure that the CO_2 supply is adequate for a cleaning run. Adequate CO_2 is required to run the incubator as well as to move reagents through the fluidics manifold. Inadequate CO_2 pressure could result in the cleaning procedure being interrupted mid-run. Always verify the main valve of the CO_2 tank is open. Gauges can show sufficient tank and in-line pressure even when the cylinder valve is shut off.

- When using CO_2 tanks, make sure that the tank valve is open and there are no leaks on any fittings. An automatic switchover system with at least two tanks is recommended to ensure correct levels of CO_2 are delivered throughout the run. Contact Bruker Support for an automatic switchover system recommendation.
- Bruker's recommended method to track CO_2 consumption by number of runs assumes 17 lbs of CO_2 is consumed per run. To calculate when tanks need to be replaced, subtract the empty weight from the tank (stamped on tank) from the total weight of the tank (tank + CO_2) to determine the volume of CO_2 in the tank. Based on this calculation, each 50 lbs CO_2 tank should be replaced after two runs. A two-bottle switch-over system is recommended to minimize unused CO_2.

External Waste Bottle: Check that the external 1L waste bottle is completely empty and attached to the waste line (labeled as "Waste") before starting a cleaning run. Without adequate space for waste, there is potential for overflow during the run, which may result in damage to the system fluidics. As a reminder, the waste bottle must be on the bench at the same level as the instrument.

Successful Completion of Cleaning: Upon completion of a cleaning run, a message will display indicating success. Should the instrument encounter any errors during cleaning, the IsoLight will display a message indicating that additional support is required. In the event of a cleaning error, perform an additional maintenance cleaning run. If that clean passes, IsoLight is sufficiently cleaned and can be used as normal. If the error persists after the additional cleaning run, please contact Bruker Support at support@isoplexis.com or by calling (475) 221-8402.

The IsoLight

The IsoLight provides new and easily accessible layers of biological data with a fully automated, end-to-end workflow. With one instrument and companion analysis software, IsoSpeak, achieve single-cell functional immune profiling, analyze single-cell signaling, and run bulk highly multiplexed immunoassays.

Cleaning Kit Ordering Information

Performing a cleaning run requires both Reusable Cleaning Chips and cleaning reagents; either the Reusable Cleaning Tube Set or Prefilled Single-Use Cleaning Tube Set:

- The Reusable Cleaning Chips last for up to one year's worth of cleanings and can be used with IsoLight software versions 1.7.2 or later.
- The Reusable Cleaning Tube Set also lasts for one year's worth of cleanings and is accompanied with an easy-to-follow reagent protocol. It is advisable to have 2 Reusable Cleaning Tube Sets in stock in the lab.
- IsoLight users also have the option to utilize Prefilled Single-Use Cleaning Tube Sets that contain reagents for one cleaning cycle. The expiration for the reagent kit is 6 months.

We also offer the Reusable Cleaning Kit: IsoLight as a bundle option for both Reusable Cleaning Chips and Reusable Cleaning Tube Set. Please note that only reusable cleaning products are covered by the instrument warranty or Bruker Service Agreement. Please see Table 1 for ordering information.

Reminders

Ensure that only reusable cleaning chips are used for instrument deep cleaning. Using single-use cleaning chips for instrument deep clean may damage the instrument. When loading chips into the instrument, ensure they are right side up. If a chip is loaded upside down, the instrument cannot scan the barcode and the chip tray must be opened and the chip inspected. If the correct chip position is not checked and is upside down, this can cause samples and reagents to leak into the machine.

Cleaning Products and Ordering Information for Your IsoLight

Product Name	Product Code
Reusable Cleaning Chips - 8	ISOCODE-1800-8
Reusable Cleaning Tube Set	ISOCODE-1701-8
Reusable Cleaning Kit: IsoLight	ISOCODE-1801-8
Prefilled Single-Use Cleaning Tube Set	ISOCODE-1700-8

Table 1 | How to order cleaning kits.