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Working with Biacore™ systems under biosafety conditions – tips and considerations

This letter provides a short summary of tips and considerations that can be of use when Biacore systems are used for analysis of infectious material. It is important to note that this letter is only intended to highlight good practices and working procedures for the instrument. Ultimately, the end user is responsible for ensuring the proper and safe analysis and disposal of the biosafety material used, following local laws and regulations.

- Desorb and sanitize should be run according to system maintenance instructions. This procedure cleans all interior parts of the flow system that has been in contact with the samples using 0.5% (w/v) sodium dodecyl sulphate (SDS) DS, 50 mM glycine-NaOH and 0.6%-1.0% sodium hypochlorite solution.
- Handle the contents of the waste bottle in a safe way. One alternative is to add an appropriate disinfectant, or solution that will deactivate the biohazard, to the waste container prior to performing the experiments and collecting the waste. This should be at a start concentration that will result in an appropriate concentration for the full bottle. For example, weigh sodium hydroxide into the empty waste bottle and add a small amount of water to it. The final concentration of sodium hydroxide when the bottle is full the concentration should be approximately 200 mM. The waste is then normally considered safe during work and can be disposed of afterwards according to your lab regulations. If the waste is safe for disposal depends on the material, you are working with and is something you would need to verify yourself. Addition of Virkon to the waste is another potential solution to deactivate the infectious material. We suggest to add it to the waste to an expected end concentration of 1% at run start. At the end of the run add another 1% of Virkon to the waste and then this should be allowed to act for at least 30 minutes prior to disposal of the waste.
- All surfaces on the system that can have been in contact with infectious material should be wiped/cleaned with Virkon 1% or 70% Ethanol, let it rest for 15 minutes and then wipe clean with water. This also includes rack trays and reagent racks used in the Biacore system as well the areas in the autosampler compartment. Take care not to touch the needle when cleaning the autosampler compartment.
- If the system has been standing on a BSL classified lab we recommend keeping it there dry after cleaning for 1 week before moving it out of the lab.

Finally, a reminder that these tips and considerations are general in nature and you need to ensure that you adapt suitable procedures for cleaning depending on the type of infectious material you are working with to ensure that you clean with solutions that has an effect on the infectious agent you are studying.



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