

## Avoid Contamination of Mobile Phases While Using Sparging Stone - Tips & Suggestions

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### Overview

Maintaining the purity of your mobile phase is essential for achieving consistent, reliable chromatographic results. Sparging stones, which introduce inert gases into mobile phase solvents, can inadvertently become contamination sources if handled improperly. Oils, bacteria, glove powders, and environmental particulates can all compromise the cleanliness of the stone's porous metal structure.

This guide outlines best practices for handling sparging stones to prevent contamination before they ever come into contact with your mobile phase.

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### Why Proper Handling Matters

Sparging stones rely on micro-porous stainless steel to deliver fine, uniform bubbles into the mobile phase. These pores can easily trap contaminants that later leach into solvents, causing issues such as:

- Elevated baseline noise
- Ghost peaks
- Shifts in retention time
- Reduced sensitivity in LC and LC–MS applications

Even minimal contamination can degrade mobile phase quality and negatively affect method reproducibility.

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### Handling Best Practices

#### Never Touch Sparging Stones with Bare Hands

Human skin carries oils, bacteria, and trace residues that can quickly foul the porous structure of a sparging stone. Direct contact introduces contaminants that are difficult to remove and may compromise chromatographic performance.

Always treat sparging stones as precision components requiring clean handling.

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#### Use Clean, Standard Laboratory Gloves or Forceps

Wear clean, non-powdered laboratory gloves when handling sparging stones. Alternatively, use forceps to avoid any risk of glove residue transfer.

Gloves should be:

- Freshly donned
  - Free of lotions or solvents
  - Dedicated to clean-component handling
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### **Avoid Powdered Gloves Completely**

Powdered gloves are a frequent but overlooked contamination source. The powder can lodge in the pores of the sparging stone and later disperse into the mobile phase, potentially introducing particulates or organic contaminants.

Choosing powder-free gloves is essential for preventing avoidable contamination events.

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### **Operational Tips to Maintain Cleanliness**

To further safeguard mobile phase purity:

- Store sparging stones in clean, dust-free containers
- Avoid placing stones on benchtops or absorbent surfaces
- Rinse or clean the stone before installation if contamination is suspected
- Handle stones only immediately before installation to reduce exposure

These small steps go a long way toward protecting sensitive chromatographic workflows.

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