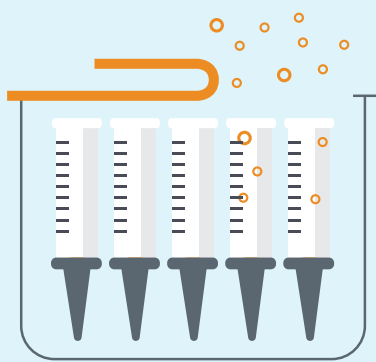


# Preventing Particulate in Ready-to-Use Syringe and Vial Tubs

## The Impact of Particulate Contamination

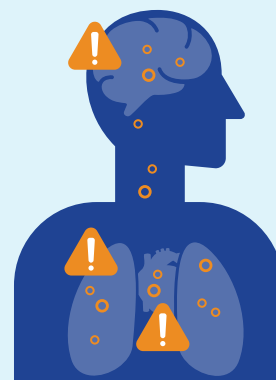
Particulate contamination can be tracked back to the lid and peeling process.



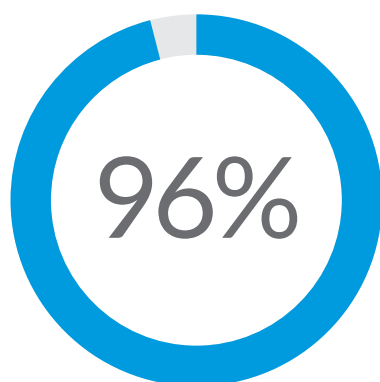
Particulate can impact a drug's solubility, stability and efficacy.



In patients, it can lead to blockages, embolism and organ damage.



## Oliver's Exclusive Xhale Coating Virtually Eliminates Particulate Contamination

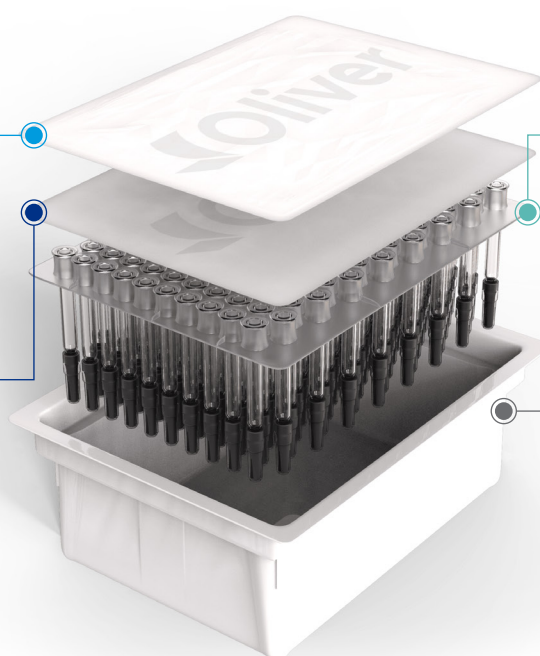


Reduction in particulate achieved by **Xhale Hot-Melt Adhesives** compared to water-based alternatives from our competitors

## How Oliver's Exclusive Xhale Works in Your System

**XHALE-COATED LID**  
Reduces particulate while maintaining the sterile barrier.

**OCLEAN INSERT LINER**  
Captures particles when the lid is peeled open for syringe filling, protecting open syringes from loose particulate.



**NEST**  
Secures the syringes or vials.

**TUB**  
Holds the filled nest. Its material, typically plastic, must be compatible with the lid's adhesive.

## Ensure Safety & Efficacy with Oliver

Minimize particulate and increase confidence with this specialty coating from Oliver — your partner in production quality and consistency.

Find out more at [www.oliverhcp.com/drugdelivery](http://www.oliverhcp.com/drugdelivery)