

Is it normal to see flakes or threads on Chrom Syringe barrels - FAQ

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Yes, under certain conditions, it is normal to observe flakes or thread-like material inside chromatography syringe barrels. This phenomenon is related to the materials and manufacturing process used to ensure smooth syringe operation.

What Causes the Flakes or Threads?

During the manufacturing of syringe barrels, a slip agent—typically oleic acid amide—is incorporated into the polypropylene resin. This additive is essential for:

- Reducing friction between the plunger and barrel
- Ensuring smooth, consistent motion during sample aspiration and dispensing

The slip agent is uniformly distributed throughout the plastic and migrates to the surface over time. While it is usually invisible to the naked eye, in some cases, it can accumulate and appear as white flakes or fibrous threads, especially when:

- The plunger is moved repeatedly or aggressively
 - The plunger is removed and reinserted
 - High vacuum or pressure is applied, drawing the material past the sealing surface
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Is This a Cause for Concern?

No. These flakes are benign and chemically inert. Oleic acid amide is widely used in medical-grade plastics and does not pose a risk to your samples or instrumentation. However, visible particulates may raise concerns for users unfamiliar with this characteristic of two-part syringes.

Best Practices to Minimize or Manage This Effect

- Avoid excessive plunger movement or reinsertion unless necessary
- Use syringes as single-use when working with ultra-trace analysis or sensitive detection methods
- Inspect syringes visually before use in critical applications
- If visible particulates are present and problematic, consider pre-rinsing the syringe with your mobile phase or sample solvent

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