What is the pressure rating of Headspace Vials and Caps - FAQ

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MICROSOLV and BASIK brand **headspace vials** are engineered for safety and reliability in applications involving elevated internal pressure, such as gas chromatography (GC) headspace analysis.

Vial Construction and Pressure Tolerance

- All MICROSOLV and Basic brand headspace vials are manufactured with a wall thickness of 1.2 mm, providing enhanced mechanical strength and resistance to internal pressure.
- This design helps ensure that the vial itself will not burst under typical analytical conditions.

The Real Weak Point: The Cap and Septum

- Contrary to common assumptions, the vial is not the limiting factor in pressure resistance—the cap and septum are.
- Under pressure, the septa can bulge against the aluminum cap with enough force to tear or rupture the cap, especially if no pressure relief mechanism is in place.

Pressure Performance

- Some MICROSOLV™ and BASIK™ brand vials equipped with pressure relief cap systems have been reported to withstand pressures up to 10 bar.
- However, standard caps without pressure relief typically fail at or near 10 bar, making them unsuitable for high-pressure applications without additional safeguards.

Best Practices for Safe Use

- Always match the vial with a compatible cap and septum rated for your application's pressure range.
- For high-pressure or volatile sample conditions, consider using pressure relief caps or crimp caps with reinforced septa.
- Avoid over-tightening screw caps, which can compromise the septum seal and increase the risk of failure.
- Regularly inspect caps and septa for signs of wear, deformation, or chemical degradation.

🔗 Click ***HERE*** for MICROSOLV Headspace Vial and Cap Ordering Information

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