

VAC-PAC[®] & VAC-PAC PLUS[®]

The Water Is Part of the Dose

Vac-Pac[®] and **Vac-Pac Plus[®]** help protect water-delivered live vaccines—and selected drinking-water pharmaceuticals—from the water conditions that can reduce stability before pigs consume the intended dose.

Modern swine operations already understand the fundamentals of drinking-water administration: select the right product, follow the label, prepare the lines, calculate consumption, and verify that pigs receive the intended dose. Yet even a well-managed program can lose value if the carrier water damages the vaccine or pharmaceutical before it reaches the drinker.

That is the practical role of a water stabilizer. Vac-Pac and Vac-Pac Plus prepare water before critical active ingredients are added by reducing harmful oxidizing activity, buffering water toward a more favorable pH, and supporting electrolyte balance. Vac-Pac Plus also provides an intense blue visual marker that helps crews confirm mixing and follow the blue-treated water through the system.

For the producer and veterinarian, the question is not simply whether vaccine entered the medicator. It is whether a viable, label-directed dose reached the pigs.

Oxidizers Can Defeat A Correct Protocol

Chlorine, chloramine, peroxide-based treatments, and other oxidizing sanitizers play an important role in routine water-system management. During administration of a live vaccine, however, those same oxidizing compounds can damage the organisms that must remain viable until pigs consume the vaccine.

In an independent laboratory study performed by Whitbeck Laboratories, a live *Salmonella choleraesuis* vaccine marketed for swine was evaluated in sterile deionized water, water containing 4 ppm free chlorine, and the same chlorinated water treated with an ASP-provided stabilizer. Unstabilized 4 ppm chlorinated water produced no recoverable vaccine organisms at 0, 2, 4, or 6 hours. In contrast, the ASP-stabilized chlorinated water supported recoverable vaccine counts similar to those in the nonchlorinated water control throughout the six-hour evaluation (Whitbeck, 2012).

The study concluded that stabilization was necessary to protect viability of the live vaccine in the presence of chlorine. Correct reconstitution and accurate medicator settings do not guarantee delivery of the intended viable vaccine—or a stable, water-administered active ingredient—if oxidizing water conditions remain uncontrolled.

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One Water-Preparation Step

Vac-Pac and Vac-Pac Plus are designed for use in drinking water when administering water-delivered treatments. Their formulation addresses three water conditions that can compromise live biologicals and sensitive water-administered compounds (ASP, 2026; Kamau et al., 2010):

- **Oxidizers:** Vac-Pac products reduce the harmful effects of chlorine and other oxidizing agents that can damage live organisms and sensitive compounds.
- **pH:** The formulations buffer prepared water toward a more suitable range for these treatments.
- **Electrolyte balance:** The stabilizers support appropriate tonicity in prepared treatment water with electrolytes rather than fermentable sugars.

Vac-Pac Plus adds another operational advantage: an intense blue visual marker. Uniform blue color confirms that the stabilizer has mixed into the water. As the colored water moves through the lines, it gives the crew a visible means to confirm system priming, monitor movement to remote drinkers, and verify flushing after administration.

Vac-Pac Plus dissolves immediately when mixed as directed, either directly in a tank mix or as a stock solution. Each 4-ounce pack stabilizes 256 gallons of water, allowing personnel to add the vaccine without waiting for an effervescent reaction to finish or a tablet to dissolve. The Farm-Pac presentation is an ideal solution for smaller groups of pigs because of its resealable jar. Dosed at 100 grams per 1,000 liters (264 gallons), each 20-gram capful stabilizes approximately 50 gallons of water (ASP, 2018).

Relevant Across Oral Programs

Water stabilization is relevant wherever sensitive active ingredients depend on drinking water for delivery. That includes label-approved oral programs involving *Lawsonia intracellularis*, *Salmonella*, selected *E. coli* and *erysipelas* products, as well as other live biologicals, probiotics, and label-appropriate pharmaceutical applications.

Each product has its own label, approved administration route, pig-age recommendation, antimicrobial restrictions, and mixing instructions. A water stabilizer does not replace those requirements. It protects the delivery environment so the product has a better opportunity to reach the pig in the form intended by its manufacturer.

The same principle can also apply to pharmaceutical products administered through drinking water. For example, Safe-Guard® AquaSol® is a fenbendazole oral suspension labeled for administration to swine through drinking water, subject to its own dosing and withdrawal requirements. ASP reports that chlorine reduced fenbendazole activity immediately in test water, while Vac-Pac- or Vac-Pac Plus-stabilized water prevented the reported loss of fenbendazole at mixing and after 24 hours (ASP, 2019; Merck Animal Health, 2026).

For producers, this reinforces an important distinction: water quality can affect not only live vaccine viability but also the stability of certain water-administered active ingredients.

Make The Invisible Visible

Many parts of water-vaccine delivery are invisible. A crew cannot see residual chlorine, verify pH by appearance, or know whether untreated water still occupies the end of a long line. Vac-Pac Plus' blue visual marker provides a simple field-level confirmation that the stabilized solution has mixed and reached the intended parts of the system. That visibility supports practical decisions during a vaccination event:

- Has the stabilizer mixed evenly?
- Has treated water reached the far end of the line?
- Are all lines receiving the vaccine-water solution?
- Has the system been cleared after the event?

The blue marker does not replace water testing, pump calibration, label instructions, or veterinary oversight. It gives the team a useful confirmation point during a process where timing and distribution matter.



Vac-Pac Plus' blue visual marker provides field-level confirmation that stabilized water has mixed and reached the intended parts of the system.

Protect The Delivery Environment

Drinking-water administration can efficiently deliver biological or pharmaceutical products to a large population of pigs. Its success depends on more than the product in the container; it also depends on the water that carries it.

Vac-Pac and Vac-Pac Plus help producers manage that water by reducing oxidizing threats, buffering pH, supporting electrolyte balance, and—in the case of Vac-Pac Plus—providing a visible indicator of treated-water distribution. In a well-run swine operation, the objective is not merely to mix a product into water. It is to deliver the intended label-directed dose to the intended pigs.

Compliance note

Use Vac-Pac and Vac-Pac Plus only as directed. Follow the current label for every vaccine, pharmaceutical product, and water stabilizer used, and use products according to the herd veterinarian's protocol. Do not assume that all vaccines for *Lawsonia*, *Salmonella*, *E. coli*, or *erysipelas* are live, orally administered, or approved for drinking-water use in every country or production program.

References

ASP. 2018. Vac-Pac Plus® Farm-Pac: New generation water stabilizer with dye. Product specification sheet. Animal Science Products, Inc., Nacogdoches, TX. Available at: <https://www.asp-inc.com/wp-content/uploads/2018/06/Vac-Pac-Plus-Farm-Pac-Spec-Sheet-2018.pdf>. Accessed Sept. 10, 2026.

ASP. 2019. Stabilizing AquaSol® fenbendazole in livestock drinking water. Animal Science Products, Inc., Nacogdoches, TX. Available at: <https://asp-inc.com/stabilizing-aquasol-fenbendazole-in-livestock-drinking-water/>. Accessed Sept. 10, 2026.

ASP. 2026. Facts about vaccine stabilization: A technical reference for poultry and swine producers. Animal Science Products, Inc., Nacogdoches, TX. Available at: <https://asp-inc.com/a-technical-reference-for-poultry-and-swine-producers/>. Accessed Sept. 10, 2026.

Kamau, N. A., D. W. Lee, C. K. Kheong, J. E. Park, and H. J. Shin. 2010. Effect of Vac-Pac Plus on the viability of a live infectious bronchitis vaccine. *J. Appl. Poult. Res.* 19:152-156. doi:10.3382/japr.2010-00192.

Merck Animal Health. 2026. Safe-Guard® AquaSol® (fenbendazole oral suspension): swine product information. Merck Animal Health USA, Rahway, NJ. Available at: <https://www.merck-animal-health-usa.com/products/safe-guard-fenbendazole-oral-suspension-aquasol/>. Accessed Sept. 10, 2026.

Whitbeck, G. L. 2012. Vaccine stability trial: Stability of Enterisol® SC-54 live *Salmonella choleraesuis* vaccine in water containing free chlorine with and without an ASP water stabilizer. Unpublished laboratory report prepared for Animal Science Products, Inc., by Whitbeck Laboratories, Inc., Springdale, AR. Nov. 7, 2012.

