Construction

Omyasmart™ Technology

Innovation in stabilizing water-based systems



THINKING OF TOMORROW



Omyasmart™ Technology

Mineral solution for water-based products

Omyasmart products are multifunctional neutralizing agents developed for long-term stability in water-based applications. Omyasmart Technology combines elevated pH value and pH buffering, to improve the long-term stability of water-based systems.

Omyasmart Technology is based on odorless and emission-free powders, avoiding the inhalation of toxic gases during application, enhancing worker safety.

The robust shelf life of paints or adhesives with Omyasmart, inventory can be held longer and the disposal of contaminated material minimized, contributing to environmental sustainability.

Integrating Omyasmart products can also contribute to improved LEED point qualification due to this favorable sustainability and safety profile.





VOC- free solution for maintaining the target pH Value

Omyasmart Boost (OSB) is a multifunctional neutralizing agent based on 100% mineral sources. OSB provided exceptional buffering capacity, performing at least as well as, and in some cases better than, conventional neutralizing agents.

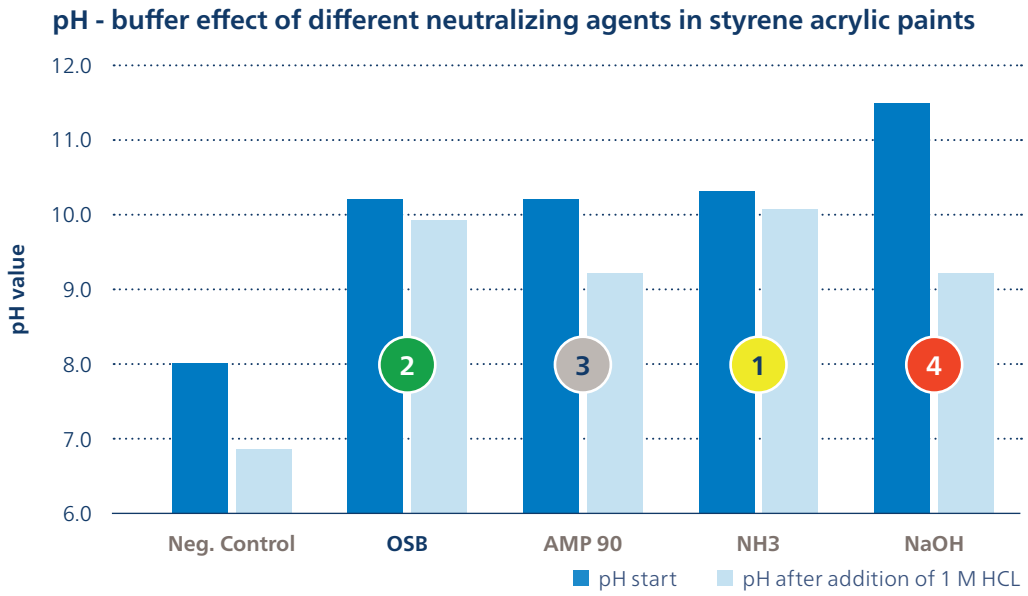
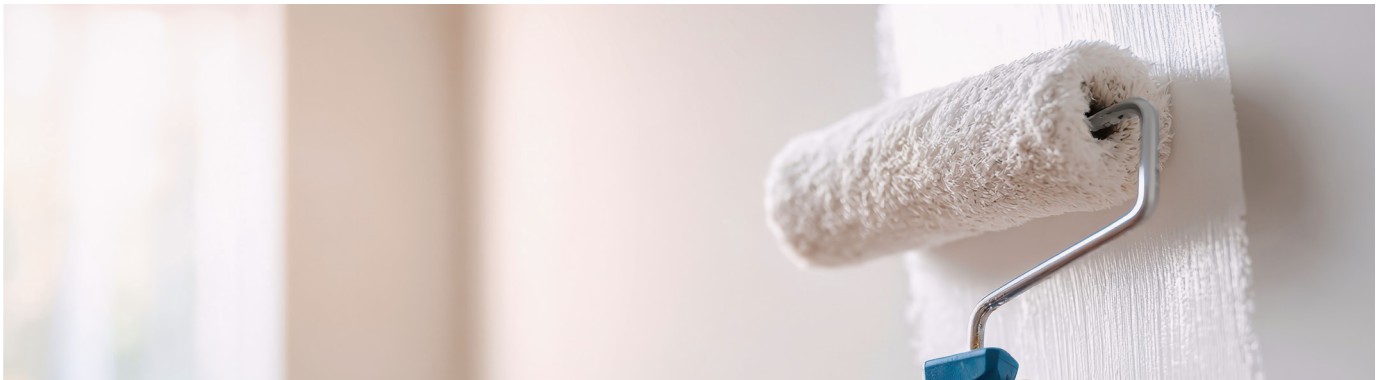


Figure 1: pH buffer test of different neutralizing agents: 1 = most effective, 4 = least effective.

In the study shown in figure 1, the mineral buffer displayed high pH-buffering capacity. Paints containing OSB do not require hazard labeling. Its use in paint enables avoidance of the hazard-related drawbacks associated with conventional neutralizing agents while maintaining pH stability in water-based formulations.

A stable pH environment contributes to the overall robustness of the formulation without providing an antimicrobial role. The buffering characteristics associated with the buffers help maintain a stable pH, thereby supporting conditions in which preservative molecules remain more uniformly dispersed and soluble. This boost in physicochemical efficiency allows formulators to achieve the desired protection with a more effective use of the preservative input.





Mineral shelf life booster to improve bioavailability of preservatives

Paints containing BIT (orange line) alone did not show sufficient efficacy in a microbial challenge test with 6 inoculation steps. The combination of 500 ppm BIT with 0.6% of Omyasmart Boost (OSB) (green line) resulted in a stable product for more than six weeks in the test which typically corresponds to a shelf life of approximately two years.

Stability test with BIT

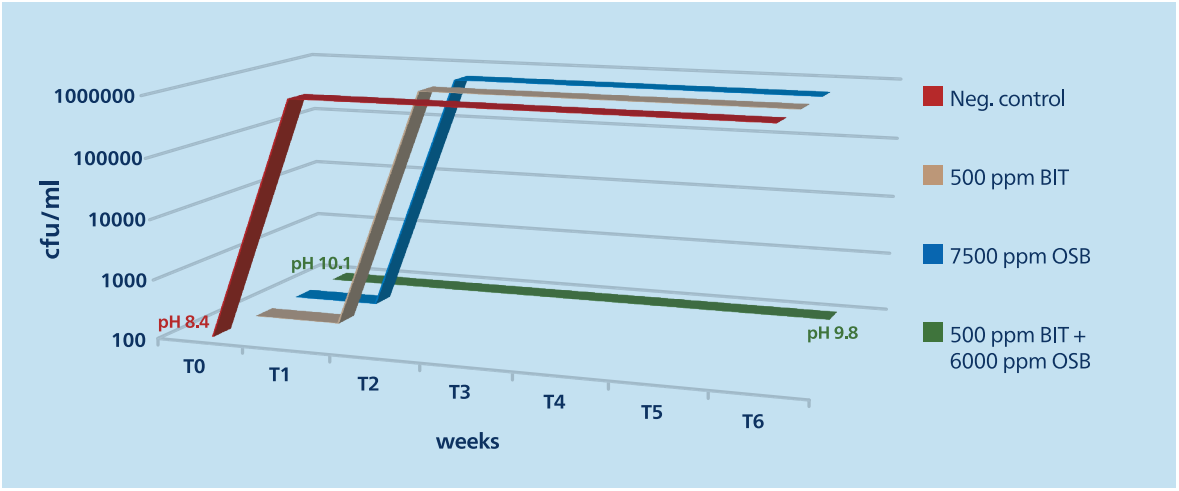


Figure 2: Challenge test of BIT alone and in combination with OSB in latex paints

A paint formulation containing BIT/MIT (gray line) does not exhibit sufficient efficacy. Elevating the pH through the addition of OSB as a neutralizing agent alone is overall insufficient to ensure preservation. Only the combined application of BIT/MIT and OSB (green line), which results in a pH of 9.3, provides the required stability.

Stability test with BIT/MIT

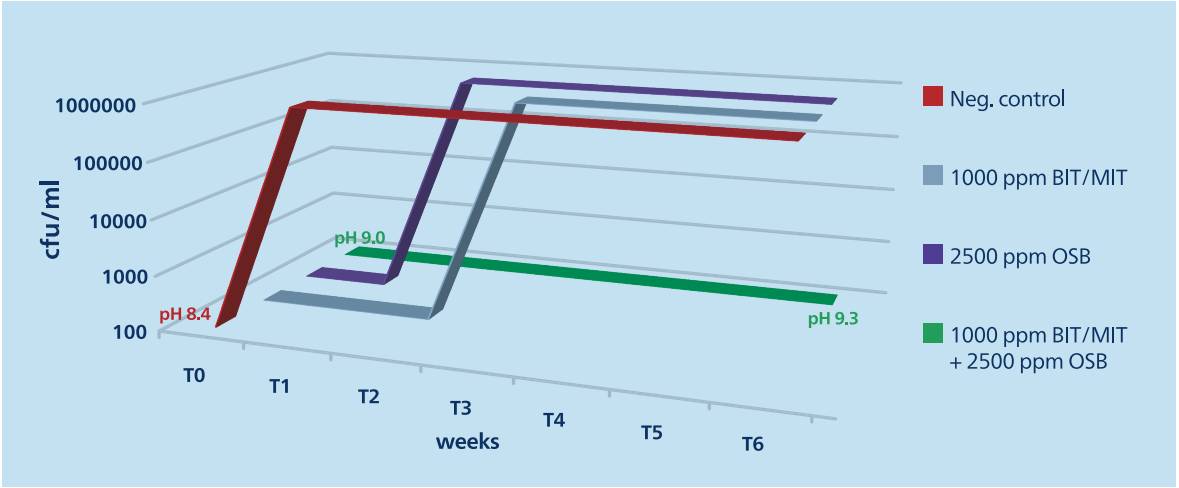


Figure 3: Challenge test of BIT/MIT alone and in combination with OSB in a latex paint

Omyasmart Boost contributes to stable pH value and maximizes the solubility of preservative

Omyasmart is multifunctional

Added values

- ✓ pH stabilization
- ✓ Robust shelf life
- ✓ Allows low-preservative formulations
- ✓ Improvement of bioavailability of preservatives
- ✓ Contributes to hazard-free labelling
- ✓ Odorless, no discoloration, zero emissions
- ✓ Compliance with the criteria for awarding the most important Eco labels in the US / CAN and EU
- ✓ Suitable for allergy sufferers

Omyasmart is a trademark of Omya AG in multiple countries.

Omya, Inc. 4605 Duke Dr. Suite 700 Mason, OH 45040
email: ConstructionUS@omya.com

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