With increased interest in sustainability, companies across industries are seeking less-toxic, lower-cost alternatives with reduced environmental impact and without sacrificing performance.

**The Solution – Verza360® (Verza)**

Verza does not exhibit any pesticidal activity when used alone. When co-fed with biocides, Verza helps achieve consistent microbial control by reducing interference from inorganic environmental contaminants, such as naturally occurring minerals and metals that interfere with active biocides.

**Lowers use of active biocide and related treatment costs**

Verza improves the efficacy of biocidal applications, such as glutaraldehyde, glut/quat mixtures, and THPS, allowing for lower use of active biocide and related treatment costs.

**Multifunctional iron control agent**

Verza is a proven solution for iron control in water treatment applications within O&G, providing multifunctional performance benefits.

**Sustainable US supply**

Verza is manufactured in the US via a carbon-negative chemienzymatic process. It is non-toxic, biodegradable, and lowers safety risks associated with high levels of biocide use, such as discharge water toxicity.

*Solugen’s Verza360® series are not registered according to FIFRA and therefore have no associated FIFRA claims.*
Verza Enables **Reduced Biocide Use** and **Improved Performance**

Across three test cases where Verza was evaluated by itself and co-fed with common biocides used in O&G, Verza demonstrated no pesticidal effect by itself and a potentiation effect when co-fed, enabling a significant reduction in biocide use while maintaining or improving performance (Figure 1).

![Figure 1. Potentiation Effect of Verza with (a) Glutaraldehyde, (b) Glut/Quat, and (c) THPS](image)

**Test Conditions**

All three laboratory tests were conducted in triplicate using a 96-well microtiter plate at rm. temp. and mixed bacterial inoculum in Permian fresh water. The bacterial inoculum for tests (a) and (b) was a mixture of GHB and APB with a 4-hr. contact time while the inoculum for test (c) was a mixture of SRBs with a 24-hr. contact time.

**About Solugen**

Solugen is a bio-based specialty chemicals manufacturer and supplier whose mission is to decarbonize the chemical industry by revolutionizing the way chemicals are made for use across a variety of markets and applications.