

# Verza360® Series

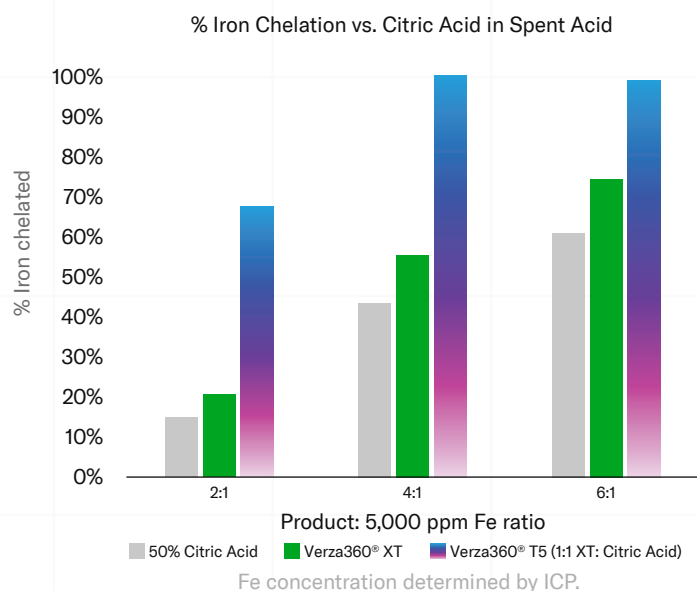
## Bio-Based Iron Control Agents for Acidizing Applications

### Boosting Iron Control to Enhance Acidizing Performance

The Verza360® series are organic acid-based iron control agents derived from plant-based materials. This series enables high iron control and cost efficiency while providing a low carbon footprint to formulators across the oil and gas industry. This series can be used as a complement to or replacement for traditional chelating agents, such as citric acid, erythorbic acid, and NTA, offering wide latitude to achieve optimal performance in acid stimulation.

#### Product Attributes

- High iron selectivity in low-to-high pH range to prevent or remediate iron scales
- Helps mitigate acid-oil sludge formation
- Increases workover efficiency and efficacy
- Higher calcium carbonate solubility than citric acid
- Substitutes or complements other organic acid-based carrier fluids like acetic acid
- Enhances acid stimulation penetration vs. HCl or HCl/HF alone
- Reduces corrosivity of acid formulation and improves compatibility with carbon steel vs. citric acid
- Non-toxic, biodegradable, & sulfate-free
- Locally and sustainably manufactured in USA using novel chemienzymatic process
- Enables lower overall chemical usage, treatment costs, and GHG emissions



Verza360® Cuts  
Citric Acid Usage by  
**50%**  
While Improving  
Iron Chelation

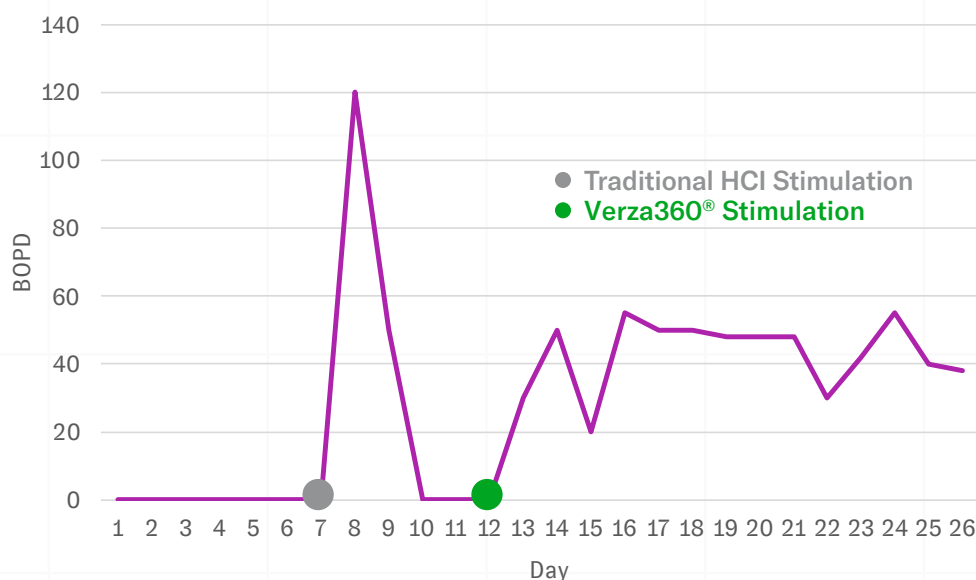


## Deepening Acid Stimulation Penetration for Higher Oil Recovery

### Case Study: Addition of Verza360® Enables 3X-4X Barrels of Oil Recovery vs. HCl Alone

Organic, weak acids, such as acetic acid, are typically used as a complement to HCl in acid formulations to lower the corrosivity of the acid formulation, prevent acid-oil sludge formation, and enhance acid stimulation penetration given its slower reactivity versus HCl.

In a case study conducted over nearly a month using HCl versus Verza360®, Verza360® demonstrated this effect, enhancing acid stimulation penetration to allow for higher oil recovery in terms of barrels of oil per day (BOPD) than HCl alone.



Addition of Verza360® enabled recovery of **604** barrels of oil over 15-day observation period while HCl alone enabled **170** barrels of oil over 5-days.

### 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.