

SUSTAINABLE WATER TREATMENT CHEMISTRY: Life Cycle Assessments (LCA) of Solugen's BioChelate™ Products in Energy and Industrial Water Treatment Applications



Solugen Facts

- Solugen's life cycle of greenhouse gas (GHG) emissions associated with BioChelate™ products have a far lighter environmental footprint than other commonly used iron scavenger, corrosion, and scale control such as EDTA, HEDP, and THPS.
- Solugen's domestic chemoenzymatic process enables innovative biobased products producing service company customers with efficacious, sustainable and decarbonized products for a changing world.
- Solugen's BioChelate™ product is the lowest carbon intensity biobased molecule when compared to alternatives such as Citric Acid. Ultimately, BioChelate™ is the most affordable (lowest cost) and safest (lowest carbon intensity) option.
- For every ton of BioChelate™ used in replacement to HEDP, more than 3 tons of GHG equivalents are reduced.

BioChelate™'s Environmental, Social, and Corporate Governance (ESG) Facts at a Glance

These facts highlight the environmental benefits when service companies replace 1,000 metric tons of HEDP per year with BioChelate™:



2.5 million miles driven by an average passenger vehicle



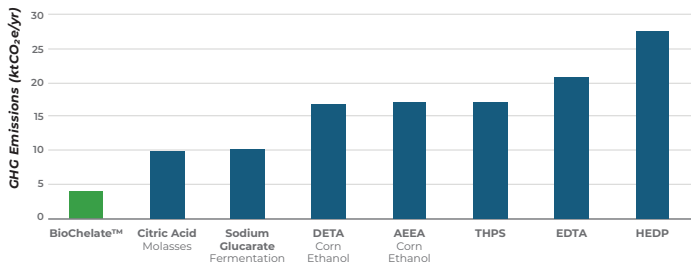
Saving enough energy to power over 200 households for one year



Absorbing CO₂ equal to over 15,000 tree seedlings grown for ten years

Solugen's Biobased Molecules ESG Profile for Industrial Water Treatment (IWT)

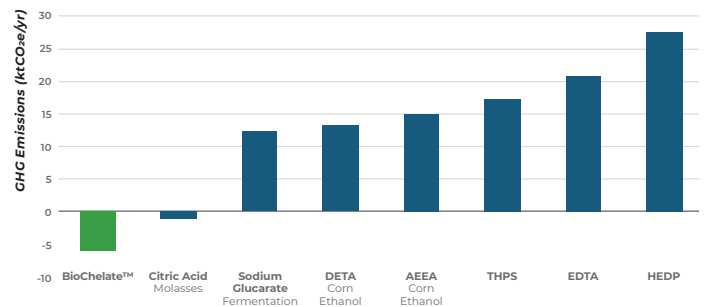
Life Cycle GHG Emissions for End Use of Wastewater Treatment (mass allocated)



Life cycle GHG emissions comparison of BioChelate™ when used in water treatment applications.

Solugen's Biobased Molecules ESG Profile for Energy

Life Cycle GHG Emissions for End Use of Saline Well Storage (mass allocated)



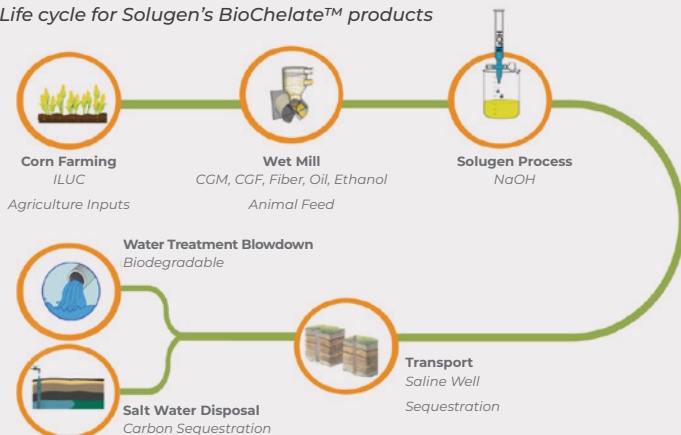
Life cycle GHG emissions comparison of BioChelate™ when used in Energy Saltwater Disposal (SWD) applications.

Solugen Delivers Innovative Biobased Energy and Water Treatment Solutions through BioChelate™



Solugen Process

Life cycle for Solugen's BioChelate™ products



Traditional Process

Life cycle for HEDP product production

