# **Glycolic Acid**

# PureTech Scientific<sup>™</sup> Glycolic acid compared to alternative Glycolic acids

### **Technical Information**

#### **Reliable Supply**

PureTech Scientific has a proven track record on meeting and exceeding customer needs for Glycolic acid supply for over 85 years. PureTech Scientific™ formally the Glycolic acid division of Chemours/ DuPont is dedicated to advancing the science of Glycolic acid into the future.

- PureTech Scientific has at least four time the capacity of any other supplier on the market.
- PureTech Scientific's supply chain is US based unlike all other producers.
- Most competitive technical grade glycolic acid, particularly that manufactured in China, is made from monochloroacetic acid (MCA). The primary market for MCA is agricultural chemicals. In times of tight supply, MCA producers will likely supply their customers that give them the most volume—agricultural chemical producers—thus making the supply chain even more volatile.

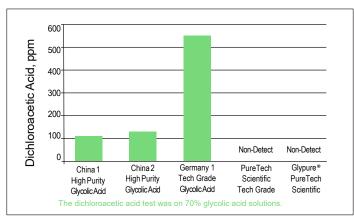
#### **Reliable Quality**

Glycolic acid from PureTech Scientific is the most consistent highest purity Glycolic acid on the market.

- PureTech Scientific operates a 24/7 continuous process, yielding the most consistent product day after day
- PureTech Scientific's plant in Belle,WV is ISO 9001:2015 certified.
- MCA route manufacturers use a batch process and have very limited personnel and analytical capability, making it difficult to ensure product quality and consistency. Although the initial load or two may be acceptable, there is so much variability as to almost guarantee that product consistency will not be maintained over time.

- Competitive producers also have hundreds of diverse MCA suppliers, whose product quality varies greatly also directly impacting the glycolic acid quality.
- MCA-produced glycolic acid has elevated levels of chlorides that prove to be much more corrosive (see graphs on back for corrosion comparison of sampled competitive and glycolic acid from Chemours).
- Glycolic acid made from MCA is likely going to have some level of unreacted chloro-organic compounds, including dichloroacetic acid, in the product—a known toxic Prop 65 compound.

## Levels of Dichloroacetic Acid in Glycolic Acid from PureTech Scientific versus In-Kind Competitive Glycolic Acid



#### **Reliable Service**

PureTech Scientific has a dedicated, professional staff of technical service representatives, as well as formulating and analytical chemists, to help end users develop new products, answer technical questions, and address any product composition questions.



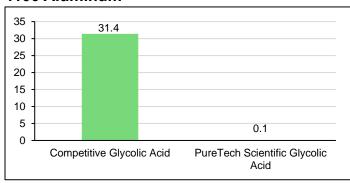
BOTTOM LINE: PureTech Scientific has the highest standards and capability for product stewardship, supply, and quality. The competitive producers can only promise these things; we have delivered on them.



## PureTech Scientific™ Glycolic acid compared to alternative Glycolic acids

# Metal Corrosion Rates of Glycolic Acid from PureTech Scientific compared to Competitive Glycolic Acid\* in the US Market

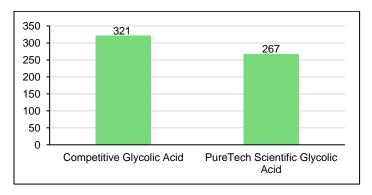
#### 1100 Aluminum



Glycolic acid from PureTech Scientific is over 300 times less corrosive to aluminum.

Test conducted on 10% solutions (100% basis) at 90°C (194°F) for 2.5 hours.

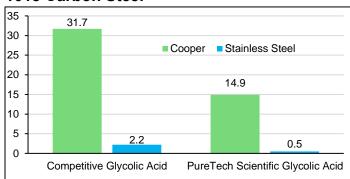
#### 1018 Carbon Steel



Glycolic acid from PureTech Scientific is 16.8% less corrosive to carbon steel.

Test conducted on 10% solutions (100% basis) at 38°C (100°F) for 48 hours.

#### 1018 Carbon Steel



Glycolic acid from PureTech Scientific is over 14 times less corrosive to cooper and almost 30 times less corrosive to stainless steel.

Test conducted on 10% solutions (100% basis) at  $90^{\circ}$ C ( $194^{\circ}$ F) for 5.8 hours on cooper and 7 hours on stainless steel.

\*Samples tested in 2004 by DuPont

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