

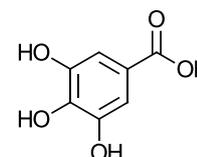
TEMIZ™ DVB-Styrene MP-002: Example of polyphenol binding & release

Summary

TEMIZ™ DVB-Sty MP-002 is a highly hydrophobic resin designed to capture a wide range of organic biological compounds from aqueous solutions. In this study, gallic acid — a model polyphenol — was effectively bound to the resin and quantitatively released using acetone.

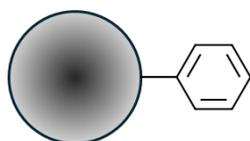
Polyphenols in Focus

Polyphenols are abundant in the plant kingdom and play diverse biological roles. For human health, they are valued for their antioxidant properties. In food and cosmetics, polyphenols serve as natural preservatives and active ingredients.



Resin Specifications

The chemistry of the food grade resin is based on hydrophobic styrenic functionality.

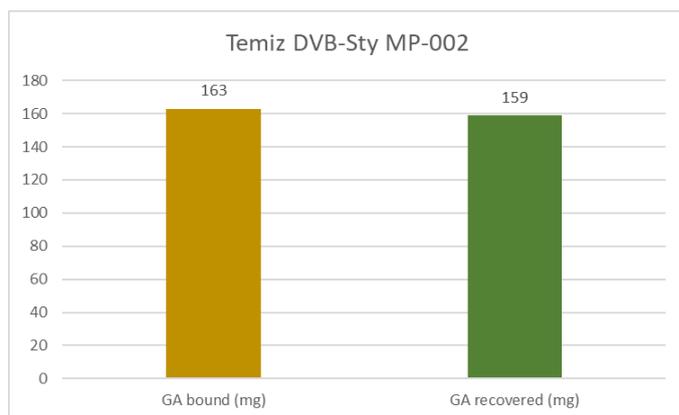


Property	Value
Resin Type	Hydrophobic
Backbone	Styrenic
Particle Size	200 - 1000 µm
Dry Density	~ 0,23 g/ml
pH Stability Range	0-14

Binding & Release Protocol:

Step	Binding Phase	Release Phase
Resin Amount	~100 mg	—
Conditioning	1× Ethanol (5 mL), 3× Water (5 mL each)	—
Compound Addition	Gallic acid (20 ml, 0.3 mg/mL in water)	—
Incubation	Shake for 2 hours	—
Elution	—	3× Acetone washes (5 mL each)
Drying	—	Evaporate at 70 °C (TurboVap)
Quantification	Bound: 163 mg	Recovered: 159 mg (97.5% recovery)

Conclusion: RP 002 Resin



TEMIZ™ DVB-Styrene MP-002 resin demonstrates excellent performance as an organic scavenger. It enables efficient transfer of organic molecules from aqueous to dry form without the need for bulk water evaporation. This makes it ideal for:

- Water-based organic synthesis
- Enzymatic transformations
- Purification of aqueous streams

The resin remains reusable after compound release, offering a sustainable and scalable solution.