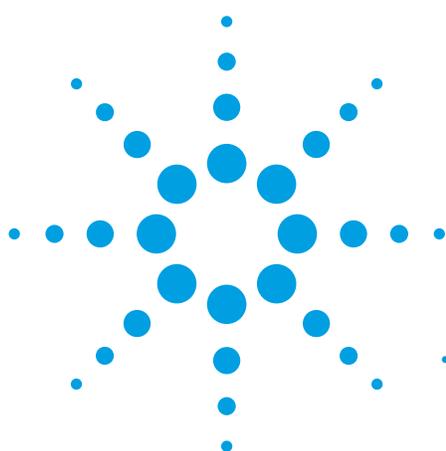


# Agilent CombiZorb Scavengers . . .

## For removal of unwanted components from combinatorial chemistry reaction mixtures

### Application Note



Agilent CombiZorb Scavengers are based on either ultrapure (99.995%) porous silica microspheres or macroporous polystyrene divinylbenzene (MP PS/DVB). CombiZorb Scavengers provide more capacity per unit volume compared to gel-type PS scavengers.

#### CombiZorb S Scavengers

- **No swelling** - usable in different formats like cartridges, columns, or 96-well plates
- Based on high purity (99.995%) porous silica microspheres with low metal content
  - No interfering reactions or catalysis with metals
  - No contamination from the adsorbent
- **Broad solvent compatibility**
  - Use with polar and non-polar solvents
  - No need to switch solvents between reaction and scavenging steps
- No static charge
- Easy to handle when packing columns or transferring the adsorbent

#### CombiZorb MP Scavengers

- **Significantly less swelling** (+50%) than standard PS/DVB resins (+500%)
  - Higher, more consistent capacity/volume ratio than resins that swell
  - No need to pre-swell
- **Broad solvent compatibility**
  - Use with polar or non-polar solvents
  - No need to switch solvents between reaction and scavenging steps
- High purity

Agilent also makes several other products for the combinatorial chemistry environment.

- ZORBAX Rapid Resolution columns (15, 30, 50 mm) for fast screening
- CombiHT columns for fast preparative LC in the 15-50 mg range
- The Agilent 1100 LC and MSD instruments for liquid chromatography and mass spectral analysis

#### Ordering Information

CombiZorb Scavenger	Part No.	Size
S-Triamine	550145-138	10g
	550245-238	100g
S-Monoamine	550145-118	10g
	550245-218	100g
S-Sulfonic Acid	550145-124	10g
	550245-224	100g
S-Tertiary Amine	550145-148	10g
	550245-248	100g
MP-Aldehyde	510100-150	10g
	510200-250	100g
MP-Isocyanate	510100-160	10g
	510200-260	100g
MP-Piperidinomethyl	510100-170	10g
	510200-270	100g
MP-Sulfonyl Chloride	510100-114	10g
	510200-214	100g
MP-Sulfonyl Hydrazide	510100-134	10g
	510200-234	100g
Variety Pack*	550550-901	6-5g bottles

S = silica (based on high purity, 99.995% pure porous silica microspheres)  
MP = macroporous polystyrene/divinylbenzene (PS/DVB)

\* Variety pack contains a 5 g bottle of each of the six scavengers: MP-Aldehyde, MP-Isocyanate, S-Triamine, S-Monoamine, S-Sulfonic Acid and S-Tertiary Amine

Request a quote for special orders and larger quantities of CombiZorb Scavengers.



**Agilent Technologies**

Innovating the HP Way

# CombiZorb Product Information



CombiZorb Scavengers	Structure	Characteristics	Loading Capacity	Applications
<b>CombiZorb S Scavengers</b>				
S-Triamine		Spherical, ultra-pure silica; Density: 1.3 g/ml; Particle Size: 20-80 µm; no swelling	1.3-1.6 meq/g	Scavenging acids, acid chlorides, acid anhydrides, chloroformates, isocyanates, aldehydes, and many other electrophiles
S-Monoamine		Spherical, ultra-pure silica; Density: 1.3 g/ml; Particle Size: 20-80 µm; no swelling	0.6-0.9 mmol/g	Scavenging acids, acid chlorides, acid anhydrides, chloroformates, isocyanates, aldehydes, and many other electrophiles
S-Sulfonic Acid		Spherical, ultra-pure silica; Density: 1.3 g/ml; Particle Size: 20-80 µm; no swelling	0.4-0.6 mmol/g	Scavenging amines and other basic compounds
S-Tertiary Amine		Spherical, ultra-pure silica; Density: 1.3 g/ml; Particle Size: 20-80 µm; no swelling	0.6-0.9 mmol/g	Scavenging acids generated from condensation reactions and may catalyze acylation reactions
<b>CombiZorb MP* Scavengers</b>				
MP-Aldehyde		Spherical, macroporous polystyrene/DVB particle; Density: 0.6 g/ml; Particle Size: 30-100 µm; swelling: 20-30% in THF or CH2Cl2	1.2-1.8 mmol/g	Scavenging hydrazines, hydroxylamines, primary amines, organometallic reagents (organolithium and Grignard reagents), and other nucleophiles
MP-Isocyanate		Spherical, macroporous polystyrene/DVB particle; Density: 0.6 g/ml; Particle Size: 30-100 µm; swelling: 20-30% in THF or CH2Cl2	0.9-1.3 mmol/g	Scavenging primary and secondary amines, anilines, hydrazines, and other nucleophiles
MP-Piperidinomethyl		Spherical, macroporous polystyrene/DVB particle; Density: 0.6 g/ml; Particle Size: 30-100 µm; swelling: 30-50% in THF or CH2Cl2	1.7-2.5 mmol/g	Use as catalyst for acylation reactions in place of tertiary amine and for scavenging acids generated from condensation reactions. <sup>1</sup>
MP-Sulfonyl Chloride		Spherical, macroporous polystyrene/DVB particle; Density: 0.6 g/ml; Particle Size: 30-100 µm; swelling: 30-50% in THF or CH2Cl2	1.6-2.0 mmol/g	Scavenging alcohols, phenols, and amines, more widely used as solid phase reagents in "catch and release" applications. <sup>2,3</sup>
MP-Sulfonyl Hydrazide		Spherical, macroporous polystyrene/DVB particle; Density: 0.6 g/ml; Particle Size: 30-100 µm; swelling: 30-50% in THF or CH2Cl2	1.5-2.5 mmol/g	Scavenging aldehydes and ketones and used as solid phase reagents in some "catch and release" applications. <sup>4,5</sup>

\*MP = macroporous polystyrene divinylbenzene

#### References

1. R.J. Booth and J.C. Hodges, *J. Am. Chem. Soc.* 1997, 119, 4882
2. T. Takahashi, S. Ebata, and T. Doi, *Tetrahedron Lett.* 1998, 39, 1369
3. E.W. Baxter, J.K. Rueter, S. Nortey, and A.B. Reitz, *Tetrahedron Lett.* 1998, 39, 979
4. Y. Hu, S. Baudart, and J. Porce, Jr., *J. Org. Chem.* 1999, 64, 1049
5. O. Galioglu and A. Auar, *Eur. Polym. J.* 1989, 25, 313

For the latest information on the complete line of Agilent Technologies columns and supplies for analytical instruments, see our online catalog at [www.agilent.com](http://www.agilent.com), or contact your local Agilent sales office. For all other areas contact Agilent or your local authorized distributor.

Information, descriptions and specifications in this publication are subject to change without notice.

