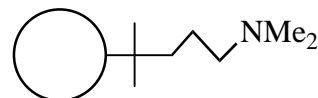


# CombiZorb S-Tertiary Amine Structure:



## Characterization:

Spherical, ultra-pure silica; Density: 1.3 g/ml; Particle Size: 20-80  $\mu\text{m}$ ; no swelling.

## Capacity:

0.6-0.9 mmol/g (determined by acid/base titration)

## Application:

Scavenging acids generated from condensation reactions and may catalyze acylation reactions.

## Typical Conditions:

3 equivalents relative to the acid expected to be generated; suitable to any common condensation reaction conditions; shake or gentle agitation; compatible with any solvents used for your reactions, no swelling needed. In general, there is no need to quench the reaction mix with water when using scavengers, however, if water is used, this scavenger is compatible with an aqueous solution.

## Application Example:

1) Benzylamine (0.4 mmol) and CombiZorb S-Tertiary Amine (1.4 g, 1.2 mmol) were premixed in a vial with 2 mL  $\text{CH}_2\text{Cl}_2$ , 4-chlorobenzoyl chloride (0.6 mmol) was added into the vial at room temperature and gently stirred for 1 h. CombiZorb S-Tertiary Amine (0.4 g, 0.6 meq) plus 1 mL acetonitrile was added into the reaction mixture and stirred for 1 h. The solid scavengers were removed by filtration and washed twice with 0.5 mL  $\text{CH}_2\text{Cl}_2$ . All filtrates were collected and solvents were evaporated to give benzyl 4-chlorobenzamide in 95% yield with purity >99% (determined by GC).

## Recommended Storage:

Keep under  $\text{N}_2$  in a dry and cool place. May be dried at 80-100°C in a vacuum oven or under  $\text{N}_2$  flow to remove absorbed water before use for better performance.

## Reference:

For general use of solid-supported amines as scavengers, see:

1. R. J. Booth & J. C. Hodges J. Am. Chem. Soc., 1997, 119, 4882.
2. C. Hulme et al. Tetrahedron Lett. 1998, 39, 8047



**Agilent Technologies**

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# Certificate of Analysis

**Product Name**            **CombiZorb S-Tertiary Amine**

**Lot Number**            \_\_\_\_\_

**Functional Groups**    **-NMe<sub>2</sub>**

Test	Specification	Result
Appearance	Off-white	Pass
Capacity	>0.6 meq/g	
Particle Size	>80% at 30 to 70 µm	Pass
Extractible	<0.2 AU/g/mL	Pass

**FOR RESEARCH AND DEVELOPMENT USE ONLY**

**Certified By** \_\_\_\_\_

**Quality Control Date**\_\_\_\_\_