SABIT™ Karbonik

Material overview

SABIT Karbonik is a rigid polymeric resin for use in scavenging reactions. The resin chemistry backbone consists of highly stable DVB-Styrene with positively charged polymeric quaternary amines coordinated to negatively charged carbonate counterions. The mesoporous structure is optimal for both small and oligomeric molecules.

Resin properties

Table 1. List of Sabit Karbonik resin properties

Resin matrix	DVB/Sty
Resin surface chemistry	Q ammonium carbonate
Particle size	400-1200 µm
Porosity	Mesoporous
Capacity per g, approx	2.2 mmol/g
Capacity per ml, approx	0.8 mmol/ml
Resin density, approx	0.38 g/ml
Dry volume	2.6 ml/g
Swelling in water	4.6 ml/g
Swelling in MeOH	4.2 ml/g
Swelling in THF	3 ml/g
Swelling in DCM	Condition for compatibility

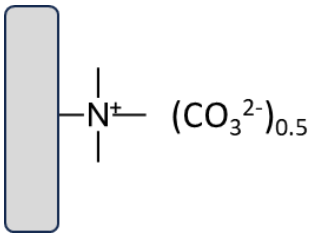


Figure 1. Schematic surface chemistry of Sabit Karbonik resin

Application areas

This polymer-bound base with its new structure offers higher capacities and faster exchange reactions. The easily accessible carbonate ions are bound to quaternary tetramethyl ammonium groups easily accessible on the resin surface. SABIT Karbonik is a resin-bound alternative to tetra-alkylammonium carbonate and can be used to scavenge a variety of acidic molecules such as

- acidic phenols, HOBt
- carboxylic, boronic, trifluoroacetic, hydrochloric acids

Test procedure for acid scavenging

1. 100 mg resin washed 3 x with 2 BV methanol
2. ¼ equivalent acid (55 µmol) dissolved in 1 ml MeOH
3. Shake for 30 minutes
4. Take out sample for analysis

Redstone Separations AB
Lund, Sweden
www.redstone-sep.com

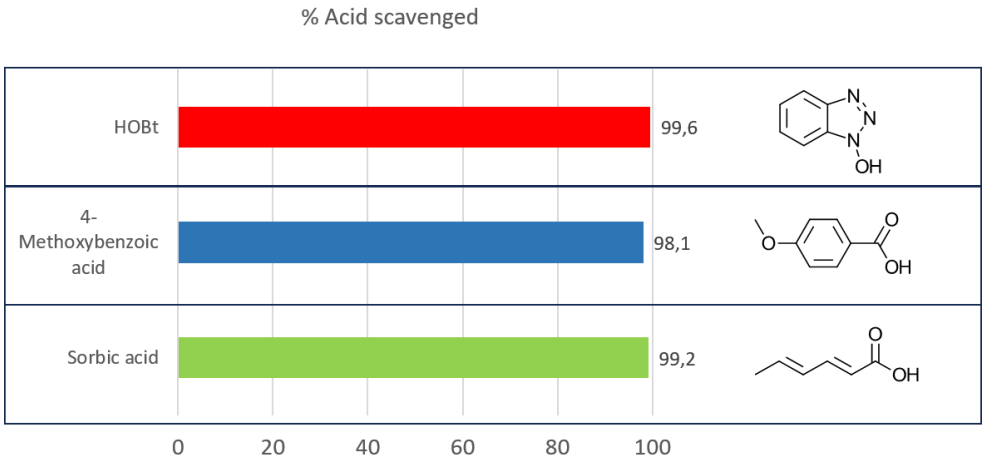


Figure 2. Comparative scavenging of acids in MeOH. Testing conditions: use 1 equivalent of acid with 4 equivalents of Sabit Karbonik in MeOH, %binding after 0,5 h.

Free-basing procedure example

Sabit Karbonik can be used as a general base to quench reactions and to neutralize amine hydrochlorides ie free basing. The large particles of SABIT Karbonik are optimal for facilitated handling and in preparative applications.

Neutralization of Amine Hydrochloride Salt to the free amine

1. Prior to use, the resin may be washed with eg methanol – this will also make it compatible with DCM.
2. Basic drug hydrochloride salt (1 equiv.) in DCM or MeOH
3. Add SABIT Karbonik (2-5 equivalents), shake gently for 1-2 hours
4. Separate resin filtration or sedimentation
5. Wash resin 2-5 x with DCM or MeOH and collect filtrate.
6. Concentrate the filtrate to give the free base.

Place your order at: order@redstone-sep.com.

Resin	Grams	Product code
Sabit Karbonik	5	30-02-0005
Sabit Karbonik	10	30-02-0010
Sabit Karbonik	25	30-02-0025
Sabit Karbonik	100	30-02-0100

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