SABIT™ DVB-TBD

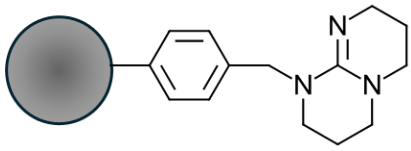
Material overview

SABIT DVB-TBD is a rigid polymeric resin with surface bound superbase TBD (Triazabicyclo[4.4. 0]dec-5-ene) for use in catalytic reactions or as a novel strong anion exchanger. The resin chemistry backbone consists of highly rigid DVB-Styrene with mesopores and a well accessible surface in essentially all solvents.

Table of properties

Property	SABIT DVB-TBD
Resin backbone	DVB/Sty
Particle size	75-200 µm
Volume of resin, dry	2.1 ml/g
Volume of resin, swollen in EtoAc	2.9 ml/g
Pore volume	1 ml/g
Pore area	600 m^2/g
Av pore size	80 Å

Structure of the Resin and level of TBD loading



TBD bound, approx 0.75 – 1.25 mmol/g

Application areas

SABIT DVB-TBD can be used to catalyze a number of reactions, such as Wittig reactions, Michael additions, Henry reactions and transesterifications. Resin-bound TBD is easily separated from substrates and product, facilitating the handling and work-up of product. The resin can be used instead of free TBD or TBD bound to soft resins with only 1-2 % DVB – but these are not compatible with all solvents and do sometimes not perform well. The morphological rigidity and permanent porosity of SABIT DVB-TBD enable its use in a much wider range of solvents and for certain reaction processes it may be the only tool able to catalyze a desired reaction.

Further, this novel resin-bound base can also be employed as a strong anion exchanger and thus as a scavenger for catch and release processes. As described, its unique structure and good water-wettability allow for effective binding in both polar aqueous and non-aqueous solutions.

Activation and regeneration of SABIT DVB-TBD for re-use

Before and after use, the resin may be (re-)activated with a strong base (each time ca 5 ml/g resin):

Step	Organic base regeneration	Water-based regeneration
Strong base wash	5% MeONa in MeOH	1 M NaOH, aqu.
Removal of base	3 x MeOH	5 x water
Removal of organics	Optionally DCM	3 x MeOH
Drying	RT or 70 °C oven	RT or 70 °C oven

Redstone Separations AB
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Typical application conditions

- Use 2-10 equivalents of catalyst to limiting reactant
- React for 1 – 20 hours while stirring or shaking
- Room temperature or to max 80 C (possibly higher, to be determined)
- Choice of solvents: all common solvents
- Resin is easily water-wettable and thus compatible with aqueous mixtures
- Filter off resin, or let sediment after use to retrieve reaction solution
- Re-activate following suggested regeneration procedure

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

Resin	Grams	Product code
Sabit DVB-TBD	1	31-01-0001
Sabit DVB-TBD	5	31-01-0005
Sabit DVB-TBD	10	31-01-0010
Sabit DVB-TBD	25	31-01-0025
Sabit DVB-TBD	100	31-01-0100

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