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Reagents

Rieke®
Organomagnesium
Reagents

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**Rieke® Organozinc
&
Organomagnesium
Reagents**

Rieke® Organozinc Reagents

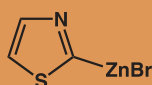
AVAILABLE EXCLUSIVELY FROM ALDRICH!

Organozinc compounds, first prepared by Frankland in 1848,¹ are used extensively in organic synthesis today. Interestingly, the choice of preparative route to organozinc reagents of the type RZnX (R=alkyl, aryl; X=halide)²⁻⁵ does play an important role in the reactivity and stability of these compounds. Aldrich now offers a comprehensive line of Rieke® Organozinc Reagents that are stable as solutions in tetrahydrofuran. These reagents have different reactivity and selectivity properties than the analogous Grignard Reagents, and are employed in cross-coupling reactions,^{6,8} Michael additions, and electrophilic amination reactions.⁹ If you do not see the compound you need, please let us know. Your new product suggestions are always welcome!

References: (1) Frankland, E. *Liebigs Ann. Chem.* **1848**, *71*, 171. (2) Erdik, E. *Organozinc Reagents in Organic Synthesis*; CRC Press, Inc.: Boca Raton, FL, 1996; Aldrich Catalog Number Z28,012-7. (3) Rieke, R. D.; Hanson, M. V. *Tetrahedron* **1997**, *53*, 1925. (4) Hanson, M. V. et al. *Tetrahedron Lett.* **1994**, *35*, 7205. (5) Cintas, P. *Activated Metals in Organic Synthesis*; CRC Press, Inc.: Boca Raton, FL, 1993; Aldrich Catalog Number Z24,607-7. (6) Miller, J. A.; Farrell, R. P. *Tetrahedron Lett.* **1998**, *39*, 7275. (7) Zhu, L. et al. *J. Org. Chem.* **1991**, *56*, 1445. (8) Negishi, E. et al. *ibid.* **1977**, *42*, 1821. (9) Velarde-Ortiz, R. et al. *Tetrahedron Lett.* **1998**, *39*, 9157.

All Rieke® Organozinc Reagents from Aldrich are sold as 0.5M solutions in tetrahydrofuran and packaged in Sure/Seal™ bottles.

49,940-4
C₃H₂BrNSZn



50mL

49,790-8
C₃H₄BrNZn



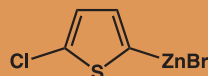
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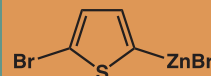
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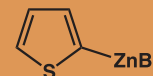
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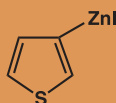
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50mL

56,162-2
C₄H₃ISZn



50mL

49,796-7
C₄H₆BrNZn



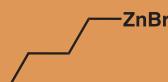
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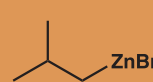
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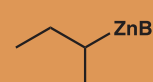
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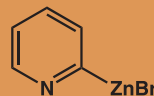
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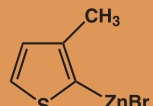
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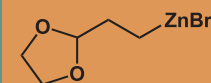
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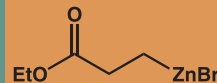
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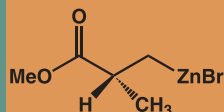
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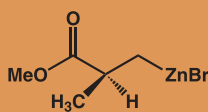
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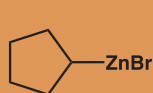
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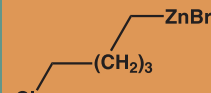
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50mL

49,781-9
C₅H₁₀BrClZn



50mL

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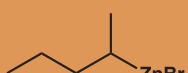
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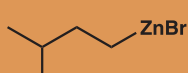
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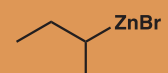
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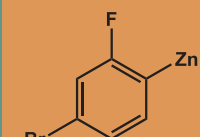
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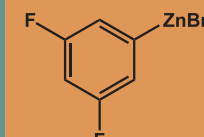
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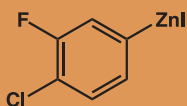
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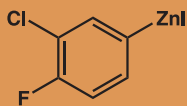
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52,450-6
C₆H₃ClFZn



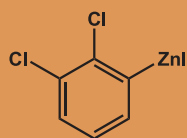
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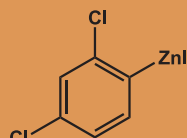
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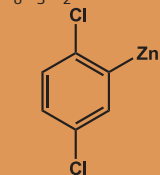
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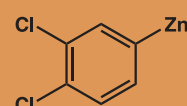
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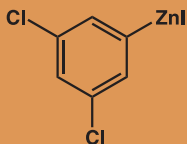
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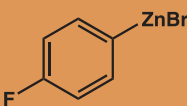
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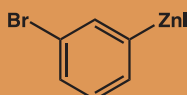
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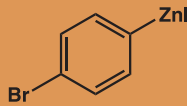
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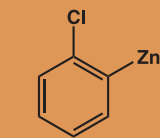
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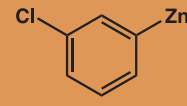
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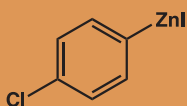
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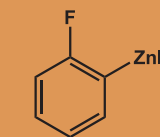
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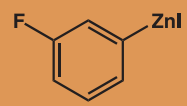
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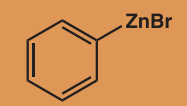
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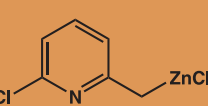
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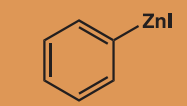
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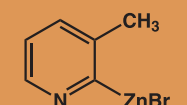
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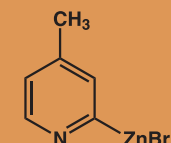
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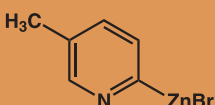
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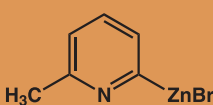
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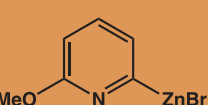
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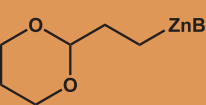
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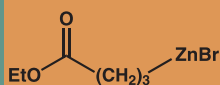
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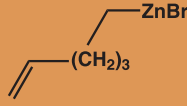
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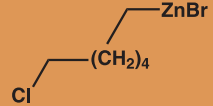
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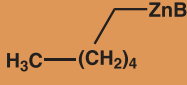
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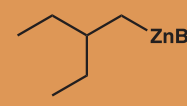
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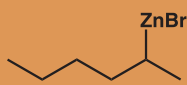
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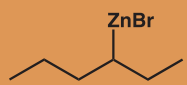
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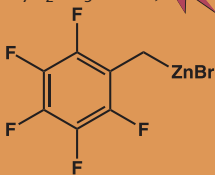
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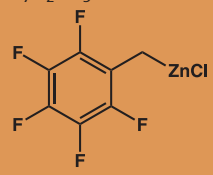
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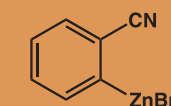
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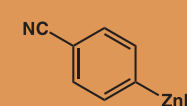
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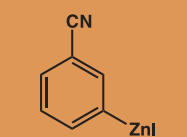
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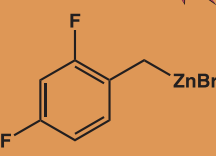
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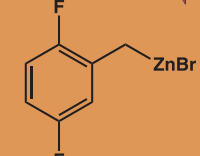
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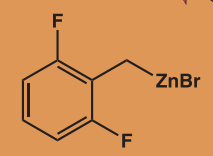
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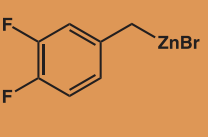
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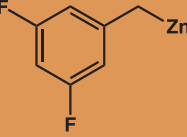
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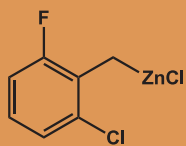
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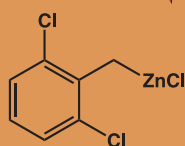
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53,525-7
C₇H₅Cl₂FZn



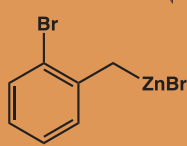
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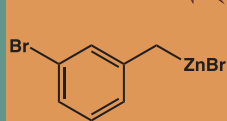
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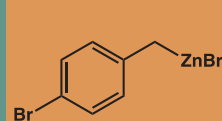
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52,165-5
C₇H₆Br₂Zn



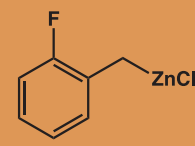
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49,946-3
C₇H₆Br₂Zn



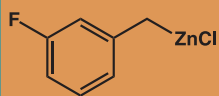
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49,858-0
C₇H₆ClFZn



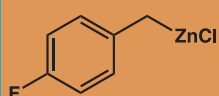
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49,859-9
C₇H₆ClFZn



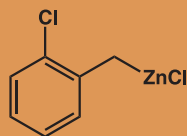
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49,860-2
C₇H₆ClFZn



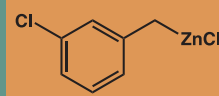
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49,756-8
C₇H₆Cl₂Zn



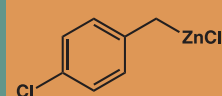
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49,757-6
C₇H₆Cl₂Zn



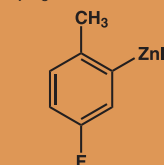
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49,776-2
C₇H₆Cl₂Zn



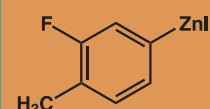
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49,862-9
C₇H₆FIzZn



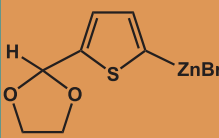
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49,861-0
C₇H₆FIzZn



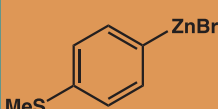
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53,369-6
C₇H₇BrO₂SZn



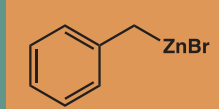
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52,022-5
C₇H₇BrSZn



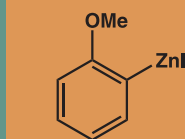
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49,751-7
C₇H₇BrZn



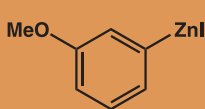
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49,882-3
C₇H₇IOZn



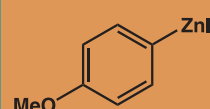
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49,883-1
C₇H₇IOZn



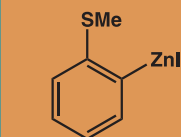
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49,885-8
C₇H₇IOZn



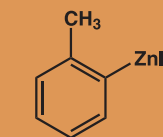
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49,942-0
C₇H₇ISZn



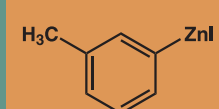
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49,893-9
C₇H₇IZn



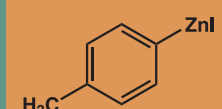
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49,894-7
C₇H₇IZn



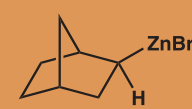
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49,895-5
C₇H₇IZn



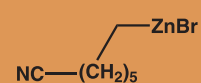
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49,905-6
C₇H₁₁BrZn



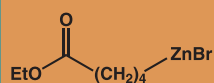
50mL

49,792-4
C₇H₁₂BrNZn



50mL

49,851-3
C₇H₁₃BrO₂Zn



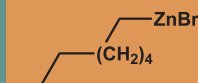
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49,802-5
C₇H₁₃BrZn



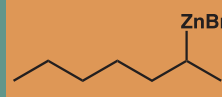
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53,327-0
C₇H₁₅BrZn



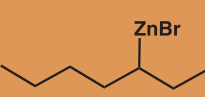
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49,869-6
C₇H₁₅BrZn



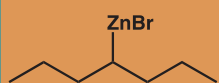
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49,871-8
C₇H₁₅BrZn



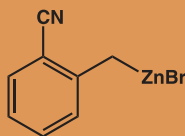
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49,872-6
C₇H₁₅BrZn



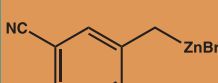
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52,032-2
C₈H₆BrNZn



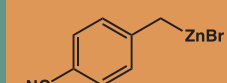
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51,737-2
C₈H₆BrNZn



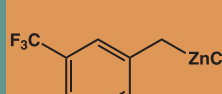
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51,738-0
C₈H₆BrNZn



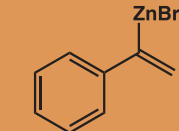
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56,104-5
C₈H₆ClF₃Zn



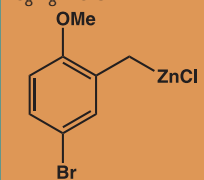
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49,939-0
C₈H₇BrZn



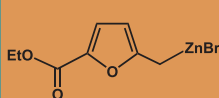
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53,339-4
C₈H₈BrClOZn



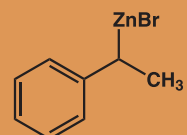
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53,352-1
C₈H₉BrO₃Zn



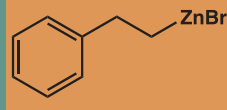
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49,877-7
C₈H₉BrZn



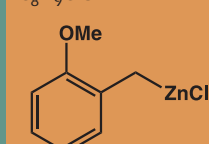
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49,930-7
C₈H₉BrZn



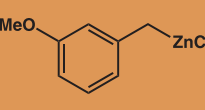
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49,878-5
C₈H₉ClOZn



50mL

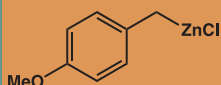
49,879-3
C₈H₉ClOZn



50mL

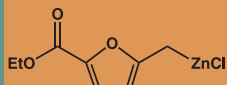
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49,880-7
C₈H₉ClOZn



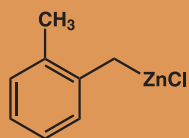
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53,356-4
C₈H₉ClO₃Zn **New!**



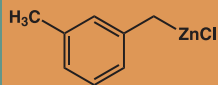
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49,886-6
C₈H₉ClZn



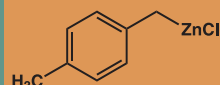
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49,887-4
C₈H₉ClZn



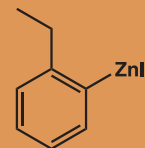
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49,888-2
C₈H₉ClZn



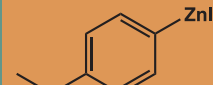
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49,856-4
C₈H₉IZn



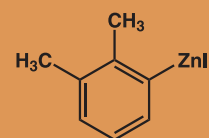
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49,857-2
C₈H₉IZn **New!**



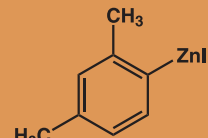
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49,837-8
C₈H₉IZn



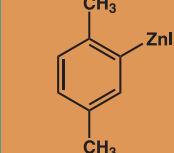
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49,838-6
C₈H₉IZn



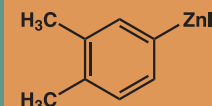
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49,839-4
C₈H₉IZn



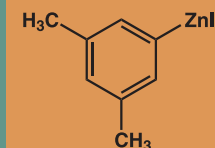
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49,841-6
C₈H₉IZn



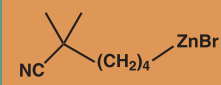
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49,842-4
C₈H₉IZn



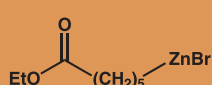
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49,892-0
C₈H₁₄BrNZn



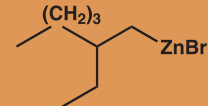
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49,850-5
C₈H₁₅BrO₂Zn



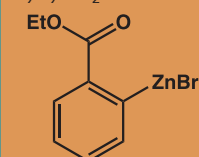
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49,855-6
C₈H₁₇BrZn



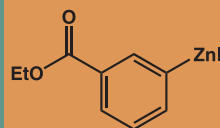
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52,047-0
C₉H₉BrO₂Zn



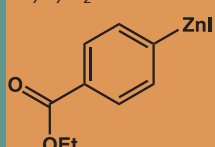
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49,846-7
C₉H₉O₂Zn



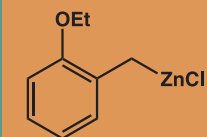
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49,847-5
C₉H₉O₂Zn



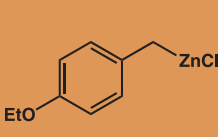
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49,944-7
C₉H₁₁ClOZn



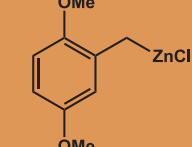
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49,945-5
C₉H₁₁ClOZn



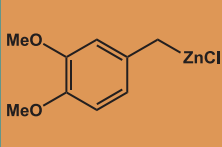
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53,331-9
C₉H₁₁ClO₂Zn



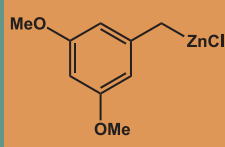
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53,332-7
C₉H₁₁ClO₂Zn



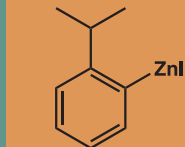
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53,333-5
C₉H₁₁ClO₂Zn



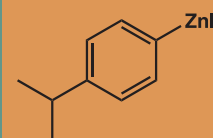
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49,935-8
C₉H₁₁IZn



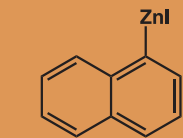
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49,936-6
C₉H₁₁IZn



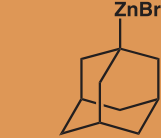
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49,904-8
C₁₀H₇IZn



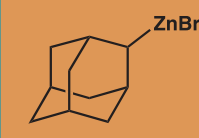
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49,760-6
C₁₀H₁₅BrZn



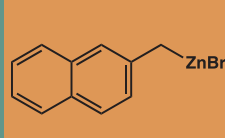
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49,761-4
C₁₀H₁₅BrZn



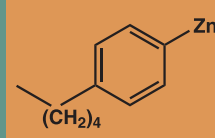
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49,902-1
C₁₁H₉BrZn



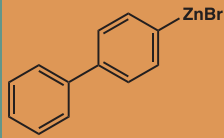
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49,908-0
C₁₁H₁₅IZn



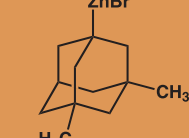
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52,472-7
C₁₂H₉BrZn



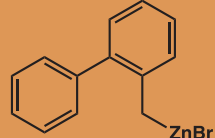
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49,843-2
C₁₂H₁₉BrZn



50mL

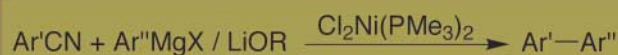
49,762-2
C₁₃H₁₁BrZn



50mL

56,767-1

Dichlorobis(trimethylphosphine)nickel(II), 97%



Catalyzes the highly selective reaction between aryl Grignards and benzonitriles¹ to form the corresponding unsymmetrical biaryls in high yield.²

References:

(1) The 2000-2001 Aldrich Catalog lists over 200 benzonitriles. (2) Miller, J. A. *Tetrahedron Lett.* 2001, 42, 6991.

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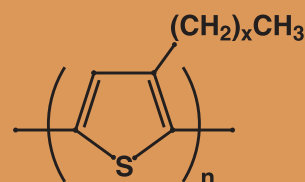
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(2.5g Mg* in 100mL tetrahydrofuran)
- 49,955-2 **Zinc, highly reactive Rieke® metal**
(5g Zn* in 100mL tetrahydrofuran)

Metal-enhanced organic synthesis via organometallic intermediates is a widely used preparative route for thousands of organic compounds. However, in some cases, ordinary bulk metal forms fail to react with organic substrates. Rieke® Highly Reactive Magnesium (Mg*) and Rieke® Highly Reactive Zinc (Zn*) react efficiently with a variety of organic substrates.

Rieke® Specialty Conducting Polymers

Aldrich also offers a selection of both regioregular and regiorandom poly(3-alkylthiophene-2,5-diyl) conducting polymers for use in materials science applications.



Regioregular Polymers

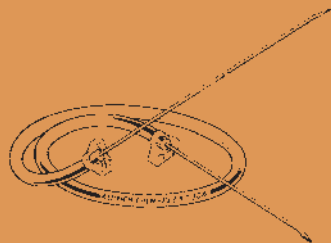
- X=3 49,533-6 Poly(3-butylthiophene-2,5-diyl)
 X=5 44,570-3 Poly(3-hexylthiophene-2,5-diyl)
 X=7 44,571-1 Poly(3-octylthiophene-2,5-diyl)
 X=9 49,534-4 Poly(3-decylthiophene-2,5-diyl)
 X=11 45,065-0 Poly(3-dodecylthiophene-2,5-diyl)

Regiorandom Polymers

- X=3 51,142-0 Poly(3-butylthiophene-2,5-diyl)
 X=5 51,082-3 Poly(3-hexylthiophene-2,5-diyl)
 X=7 51,083-1 Poly(3-octylthiophene-2,5-diyl)
 X=9 51,085-8 Poly(3-decylthiophene-2,5-diyl)
 X=11 51,086-6 Poly(3-dodecylthiophene-2,5-diyl)

- NEW! 55,761-7 Poly(3-phenylthiophene-2,5-diyl)
 NEW! 55,762-5 Poly(3-cyclohexylthiophene-2,5-diyl)
 NEW! 55,763-3 Poly(3-cyclohexyl-4-methylthiophene-2,5-diyl)

CHEM-FLEX™ Transfer Lines



Tubing L (in.)	Cat. No.
30	Z23,102-9
60	Z28,175-1
120	Z28,177-8

Especially suited for transfer of products packed in Aldrich Sure/Seal™ bottles. These ready-to-use transfer lines incorporate CHEM-FLEX™ 106 tubing, which has a chemically inert, thin-wall PTFE inner tube sheathed in clear PVC for extra strong, flexible lines that are resistant to crushing or kinking. Two 12 gauge SS needles (6 and 18in.) are connected to the CHEM-FLEX™ 106 tubing with nylon clamps. Liquids contact only PTFE and SS during transfers.

CHEM-FLEX and Sure/Seal are trademarks of Sigma-Aldrich Co.

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or visit our Web site at www.sigma-aldrich.com

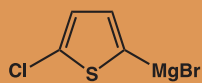
Rieke[®] Organomagnesium Reagents

Now Available Exclusively from Aldrich!

New!

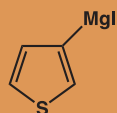
Unless otherwise noted, all Rieke[®] Organomagnesium Reagents from Aldrich are sold as 0.5M solutions in tetrahydrofuran and packaged in Sure/Seal[™] bottles.

56,380-3
C₄H₂BrClMgS



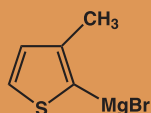
50mL

56,163-0
C₄H₃IMgS



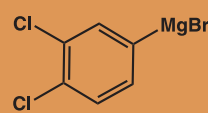
50mL

56,221-1
C₅H₅BrMgS



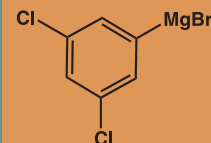
50mL

56,227-0
C₆H₃BrCl₂Mg



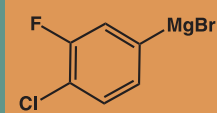
50mL

56,228-9
C₆H₃BrCl₂Mg



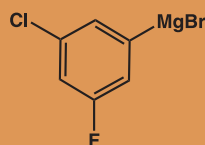
50mL

56,225-4
C₆H₃BrClFMg



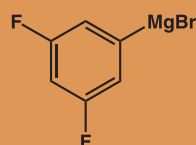
50mL

56,339-0
C₆H₃BrClFMg



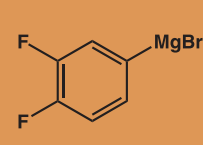
50mL

56,102-9
C₆H₃BrF₂Mg



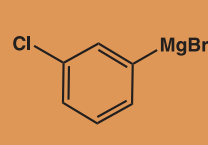
50mL

56,103-7
C₆H₃BrF₂Mg



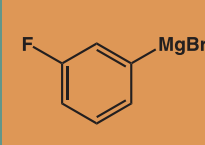
50mL

56,372-2
C₆H₄BrClMg



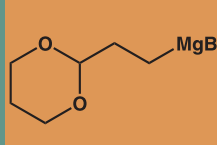
50mL

56,166-5
C₆H₄BrFMg



50mL

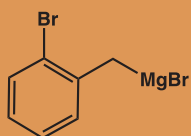
56,165-7
C₆H₁₁BrMgO₂



50mL

56,214-9
C₇H₆Br₂Mg

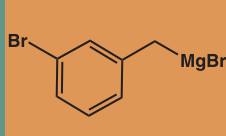
0.25M
in Et₂O



50mL

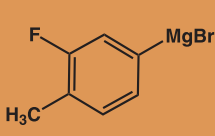
56,213-0
C₇H₆Br₂Mg

0.25M
in Et₂O



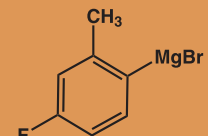
50mL

56,171-1
C₇H₆BrFMg



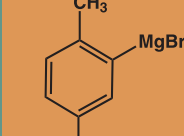
50mL

56,173-8
C₇H₆BrFMg



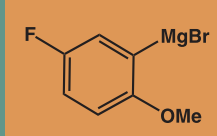
50mL

56,174-6
C₇H₆BrFMg



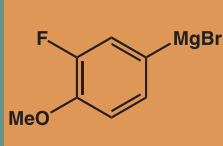
50mL

56,198-3
C₇H₆BrFMgO



50mL

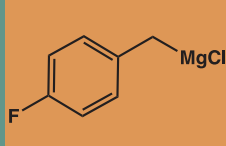
56,370-6
C₇H₆BrFMgO



50mL

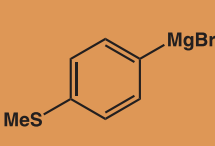
56,392-7
C₇H₆ClFMg

0.25M



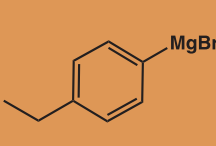
50mL

56,176-2
C₇H₇BrMgS



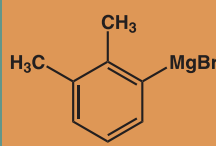
50mL

56,175-4
C₈H₉BrMg



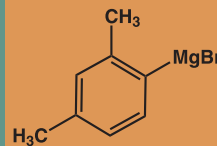
50mL

56,375-7
C₈H₉BrMg



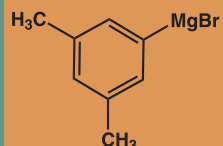
50mL

56,204-1
C₈H₉BrMg



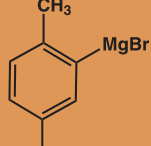
50mL

56,207-6
C₈H₉BrMg



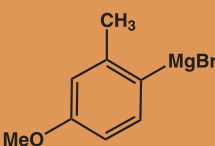
50mL

56,376-5
C₈H₉BrMg



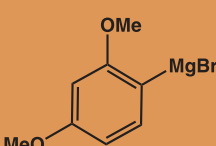
50mL

56,223-8
C₈H₉BrMgO



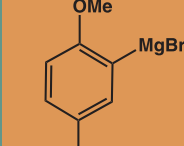
50mL

56,202-5
C₈H₉BrMgO₂



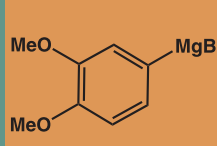
50mL

56,181-9
C₈H₉BrMgO₂



50mL

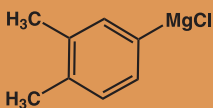
56,197-5
C₈H₉BrMgO₂



50mL

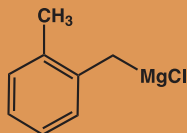
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56,206-8
C₈H₉ClMg



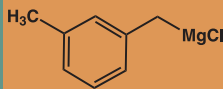
50mL

56,217-3
C₈H₉ClMg



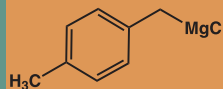
50mL

56,215-7
C₈H₉ClMg



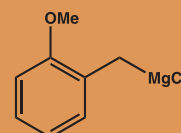
50mL

56,377-3
C₈H₉ClMg



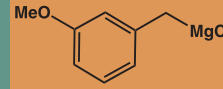
50mL

56,209-2 0.25M
C₈H₉ClMgO



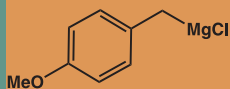
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56,208-4 0.25M
C₈H₉ClMgO



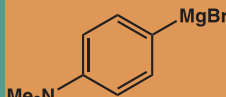
50mL

56,203-3 0.25M
C₈H₉ClMgO



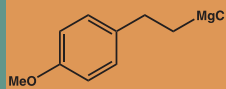
50mL

56,106-1
C₈H₁₀BrMgN



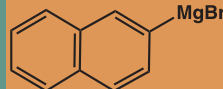
50mL

56,220-3
C₉H₁₁ClMgO



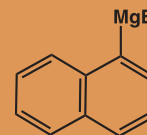
50mL

56,216-5
C₁₀H₇BrMg



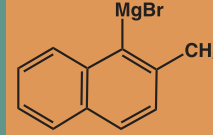
50mL

56,167-3 0.25M
C₁₀H₇BrMg



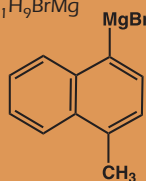
50mL

56,369-2 0.25M
C₁₁H₉BrMg



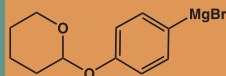
50mL

56,368-4 0.25M
C₁₁H₉BrMg



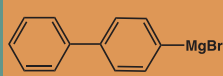
50mL

56,224-6
C₁₁H₁₃BrMgO₂



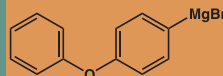
50mL

56,200-9
C₁₂H₉BrMg



50mL

56,168-1
C₁₂H₉BrMgO



50mL

56,374-9
C₁₄H₉BrMg



50mL

Serrated Rubber or Silicone Septa

New!

Closure has a turnover flange molded to grip outside of container neck, promoting a double seal in conjunction with annular serrations on a hollow plug. Annular serrations depress themselves against the inside wall of the bottle neck, making each serration a suction sealing point.



Fits container neck i.d. (mm)	For use with:	White rubber Cat. No.	Red rubber Cat. No.	Blue rubber Cat. No.	Suba•Seal® Silicone Cat. No.
8.0	10/30	Z51,217-6	Z51,216-8	Z51,264-8	Z27,973-0
12.5	14/20	Z51,212-5	Z51,211-7	Z51,267-2	Z27,974-9
16.0	Sure/Seal™	Z51,219-2	Z51,218-4	Z51,269-9	Z27,975-7
17.5	19/22	Z51,221-4	Z51,220-6	Z51,270-2	Z27,976-5
20.5	24/40	Z51,214-1	Z51,213-3	Z51,272-9	Z27,977-3
25.5	29/42	Z51,223-0	Z51,222-2	Z51,275-3	Z27,978-1

Natural Rubber Septa

For use with:	White rubber Cat. No.	Red rubber Cat. No.
5mm NMR tubes	Z10,070-6	Z12,433-8
7mm o.d. tubing	Z10,071-4	Z12,434-6
8 or 9mm o.d. tubing	Z10,072-2	Z12,435-4
9 or 10mm o.d. tubing	Z10,073-0	Z12,436-2
13mm i.d. tubing	Z12,743-4	Z12,744-2
10/30 joints	Z10,075-7	Z12,438-9
14/20 joints	Z10,074-9	Z12,437-0
19/22 joints	Z10,076-5	Z11,830-3
24/40 joints	Z10,145-1	Z12,439-7

Silicone Serrated Septa (shown above) are excellent for high-heat and sterile applications.

Suba•Seal is a registered trademark of William Freeman & Co. Ltd. Sure/Seal is a trademark of Sigma-Aldrich Co.

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ALDRICH Grignards

22,575-4	Allylmagnesium bromide, 1.0M solution in diethyl ether
22,590-8	Allylmagnesium chloride, 2.0M solution in tetrahydrofuran
30,275-9	Benzylmagnesium chloride, 1.0M solution in diethyl ether
22,591-6	Benzylmagnesium chloride, 2.0M solution in tetrahydrofuran
37,200-5	3-Bis(trimethylsilyl)aminophenylmagnesium chloride, 1.0M solution in tetrahydrofuran
41,959-1	3-Butenylmagnesium bromide, 0.5M solution in tetrahydrofuran
41,958-3	2-Butenylmagnesium chloride, 0.5M solution in tetrahydrofuran
22,437-5	Butylmagnesium chloride, 2.0M solution in diethyl ether
22,442-1	sec-Butylmagnesium chloride, 2.0M solution in diethyl ether
22,449-9	tert-Butylmagnesium chloride, 2.0M solution in diethyl ether
29,100-5	Butylmagnesium chloride, 2.0M solution in tetrahydrofuran
36,464-9	tert-Butylmagnesium chloride, 1.0M solution in tetrahydrofuran
32,465-5	4-tert-Butylphenylmagnesium bromide, 2.0M solution in diethyl ether
26,218-8	4-Chlorophenylmagnesium bromide, 1.0M solution in diethyl ether
22,441-3	Cyclohexylmagnesium chloride, 2.0M solution in diethyl ether
42,833-7	Cyclopentylmagnesium bromide, 2.0M solution in diethyl ether
22,440-5	Cyclopentylmagnesium chloride, 2.0M solution in diethyl ether
34,710-8	Decylmagnesium bromide, 1.0M solution in diethyl ether
42,550-8	2,6-Dimethylphenylmagnesium bromide, 1.0M solution in tetrahydrofuran
27,728-2	1,1-Dimethylpropylmagnesium chloride, 1.0M solution in diethyl ether
47,261-1	(1,3-Dioxolan-2-ylmethyl)magnesium bromide, 0.5M solution in tetrahydrofuran
34,510-5	Ethylmagnesium bromide, 1.0M solution in tert-butyl methyl ether
30,033-0	Ethylmagnesium chloride, 2.0M solution in diethyl ether
30,382-8	Ethylmagnesium chloride, 2.0M solution in tetrahydrofuran
34,615-2	Ethynylmagnesium bromide, 0.5M solution in tetrahydrofuran
34,616-0	Ethynylmagnesium chloride, 0.5M solution in tetrahydrofuran
34,460-5	4-Fluoro-3-methylphenylmagnesium bromide, 1.0M solution in tetrahydrofuran
24,555-0	4-Fluorophenylmagnesium bromide, 2.0M solution in diethyl ether
25,502-5	Hexylmagnesium bromide, 2.0M solution in diethyl ether
33,825-7	Isobutylmagnesium bromide, 2.0M solution in diethyl ether
22,438-3	Isopropylmagnesium chloride, 2.0M solution in diethyl ether
23,011-1	Isopropylmagnesium chloride, 2.0M solution in tetrahydrofuran
33,240-2	2-Mesitylmagnesium bromide, 1.0M solution in diethyl ether
22,723-4	2-Mesitylmagnesium bromide, 1.0M solution in tetrahydrofuran
44,219-4	3-Methoxyphenylmagnesium bromide, 1.0M solution in tetrahydrofuran
41,953-2	2-Methylallylmagnesium chloride, 0.5M solution in tetrahydrofuran
30,243-0	Methylmagnesium bromide, 1.0M solution in butyl ether
28,223-5	Methylmagnesium bromide, 1.4M solution in toluene/tetrahydrofuran (75:25)
29,309-1	Methyl-d ₃ -magnesium iodide, 1.0M solution in diethyl ether 99+ atom % d
42,020-4	2-Methyl-2-phenylpropylmagnesium chloride, 0.5M solution in diethyl ether
41,960-5	1-Methyl-1-propenylmagnesium bromide, 0.5M solution in tetrahydrofuran
41,961-3	2-Methyl-1-propenylmagnesium bromide, 0.5M solution in tetrahydrofuran
42,004-2	1-Methyl-2-propenylmagnesium chloride, 0.5M solution in tetrahydrofuran
39,426-2	Octadecylmagnesium chloride, 0.5M solution in tetrahydrofuran
32,456-6	Octylmagnesium chloride, 2.0M solution in tetrahydrofuran
42,405-6	Pentadecylmagnesium bromide, 0.5M solution in diethyl ether
44,258-5	Pentafluorophenylmagnesium bromide, 0.5M solution in diethyl ether
31,001-8	Pentamethylenebis(magnesium bromide), 0.5M solution in tetrahydrofuran
29,099-8	Pentylmagnesium bromide, 2.0M solution in diethyl ether
35,751-0	Phenylethynylmagnesium bromide, 1.0M solution in tetrahydrofuran
33,137-6	Phenylmagnesium bromide, 1.0M solution in tetrahydrofuran
41,954-0	1-Propenylmagnesium bromide, 0.5M solution in tetrahydrofuran
22,439-1	Propylmagnesium chloride, 2.0M solution in diethyl ether
42,900-7	1-Propynylmagnesium bromide, 0.5M solution in tetrahydrofuran
29,898-0	o-Tolylmagnesium bromide, 2.0M solution in diethyl ether
30,032-2	p-Tolylmagnesium bromide, 1.0M solution in diethyl ether
40,529-9	m-Tolylmagnesium chloride, 1.0M solution in tetrahydrofuran
36,002-3	o-Tolylmagnesium chloride, 1.0M solution in tetrahydrofuran
44,217-8	p-Tolylmagnesium bromide, 1.0M solution in tetrahydrofuran
25,602-1	(Trimethylsilylmethyl)magnesium chloride, 1.0M solution in diethyl ether
47,655-2	Vinylmagnesium chloride, 1.6M solution in tetrahydrofuran

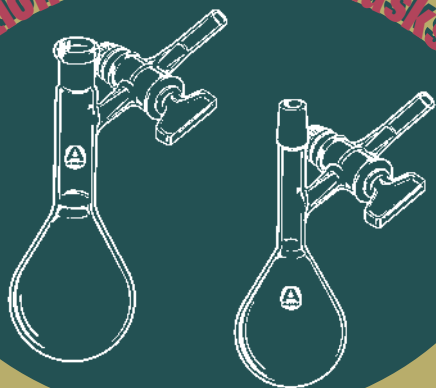
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Kjeldahl Reaction and Storage Flasks



Cap. (mL)	Joint	Outer Joint Cat. No.	Inner Joint Cat. No.
25	14/20	Z51,567-1	Z51,577-9
50	14/20	Z51,569-8	Z51,578-7
100	14/20	Z51,570-1	Z51,579-5
100	24/40	Z51,572-8	Z51,580-9
100	29/32	Z51,573-6	Z51,581-7
250	14/20	Z51,574-4	Z51,582-5
250	24/40	Z51,575-2	Z51,583-3
250	29/32	Z51,576-0	Z51,584-1

Reaction and Storage Tubes



Cap. (mL)	Joint	Outer Joint Cat. No.	Inner Joint Cat. No.
25	14/20	Z51,598-1	Z51,608-2
50	14/20	Z51,600-7	Z51,609-0
100	14/20	Z51,601-5	Z51,610-4
100	24/40	Z51,602-3	Z51,611-2
100	29/32	Z51,603-1	Z51,612-0
250	14/20	Z51,605-8	Z51,613-9
250	24/40	Z51,606-6	Z51,614-7
250	29/32	Z51,607-4	Z51,615-5

Solvent Storage Flasks



Cap. (mL)	Joint	Cat. No.
25	14/20	Z51,586-8
50	14/20	Z51,587-6
100	14/20	Z51,588-4
100	24/40	Z51,589-2
100	29/32	Z51,590-6
250	14/20	Z51,591-4
250	24/40	Z51,592-2
250	29/32	Z51,593-0
500	24/40	Z51,594-9
500	29/32	Z51,595-7
1000	24/40	Z51,596-5
1000	29/32	Z51,597-3

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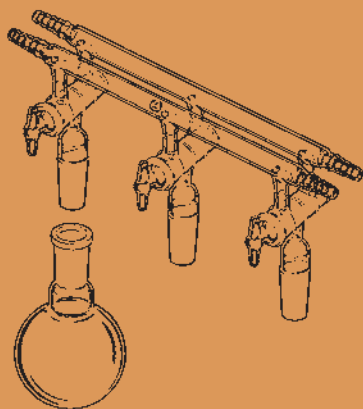
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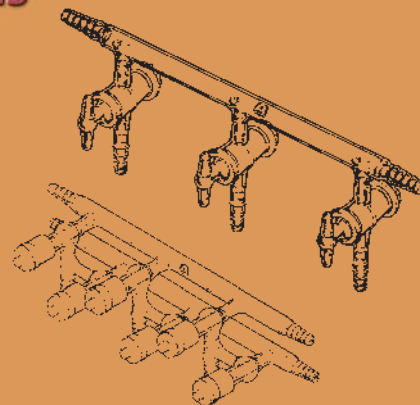
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Positions	Overall L (mm)	$\text{K}14/20$ Cat. No.	$\text{K}24/40$ Cat. No.
3	300	Z53,066-2	Z53,069-7
4	400	Z53,067-0	Z53,070-0
5	500	Z53,068-9	Z53,071-9

Keck is a registered trademark of Cole-Parmer Instrument Co.

Aldrich Single- and Dual-Bank Manifolds

Positions	Overall L (mm)	Single-bank Cat. No.	Dual-bank Cat. No.
Glass stopcock, 4mm bore			
3	300	Z53,213-4	Z20,268-1
4	400	Z53,214-2	Z20,270-3
5	500	Z53,215-0	Z24,357-4
High-vacuum, PTFE J. Young valves			
3	300	Z53,219-3	Z41,413-1
4	400	Z53,220-7	Z41,415-8
5	500	Z53,221-5	Z41,416-6



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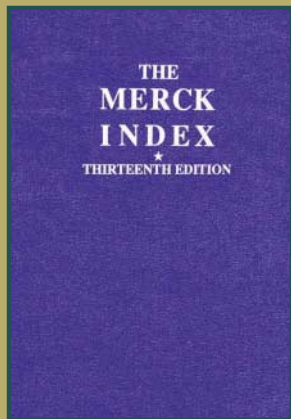
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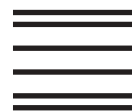


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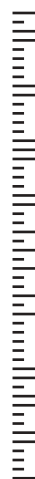
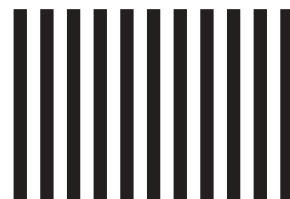
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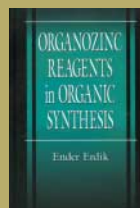
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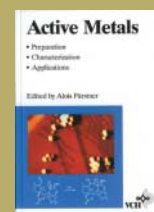
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