

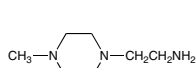
Piperazines

Piperazine derivatives have applications in many areas of chemistry, such as ligands or compounds with medicinal properties. A number of new piperazines are now available through Alfa Aesar. Many have already been extensively cited in the scientific literature; here are just a few examples of their use.

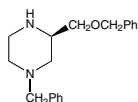
Piperazines of the type 1-(2-aminoethyl)-4-methylpiperazine (H52371) have been used in the synthesis of sulphonamides and have been employed as histone deacetylase (HDAC) inhibitors.¹ Alternatively, ethyl 4-(1-piperazinyl)-benzoate (H52400) has been used as the starting point for potential Bcl-2 inhibitors² or in the design of tricyclic pharmacophore-based molecules.³ 1,4-piperazinedipropionitrile (H30286) has been used to prepare cyclic diamines.⁴

Structures such as 1,4-Piperazinedipropionitrile (H51904) have been extensively used as piperazine based ligand systems for bimetallic ytterbium bisamido complexes⁵, aluminium complexes⁶, titanium complexes⁷ or alkyl lanthanide complexes (Y, Lu, Yb, Gd)⁸ which exhibit high activity for the ring-opening polymerization of L-lactide. Several groups have used chiral piperazines derivatives such as (S)-1-benzyl-3-isobutyl-piperazine (H52291) or (S)-1-Boc-2-isopropyl-piperazine (H52424) as building blocks for more complex molecules such as chiral terphenyl-type peptide α -helix mimetics.^{9,10}

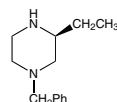
Alfa Aesar has extended its comprehensive range of heterocyclic compounds with the following piperazines.



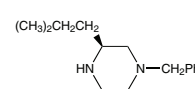
H52371
1-(2-Aminoethyl)-4-methylpiperazine, 97+ %
[934-98-5]



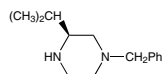
H52431
(R)-1-Benzyl-(benzyloxymethyl)piperazine, 97 %
[255723-98-9]



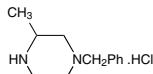
H52557
(S)-1-Benzyl-3-ethylpiperazine, 97 %
[324750-04-1]



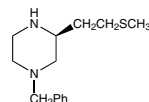
H52291
(S)-1-Benzyl-3-isobutylpiperazine, 97+ %
[444892-03-9]



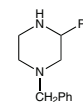
H52300
(S)-1-Benzyl-3-isopropylpiperazine, 98+ %
[324748-62-1]



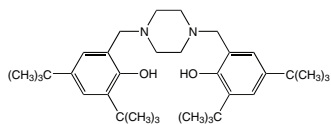
H30169
1-Benzyl-3-methylpiperazine hydrochloride, 98+ %



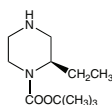
H52430
(S)-1-Benzyl-3-[2-(methylthio)ethyl]piperazine, 97 %
[660862-41-9]



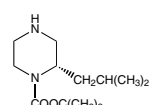
H52415
1-Benzyl-3-phenylpiperazine, 97 %
[5368-32-1]



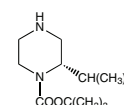
H51904
1,4-Bis(2-hydroxy-3,5-di-tert-butylbenzyl)piperazine, 95 %
[110546-20-8]



H52738
(S)-1-Boc-2-ethylpiperazine, 97 %
[325145-35-5]

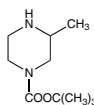


H52409
(S)-1-Boc-2-isobutylpiperazine, 97 %
[674792-06-4]

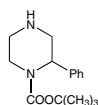


H52424
(S)-1-Boc-2-isopropylpiperazine, 97 %
[674792-05-3]

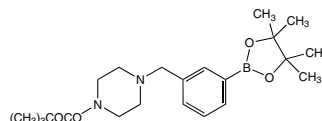
Piperazines



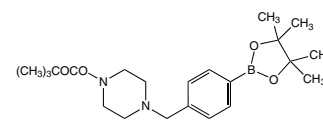
H52809
(±)-1-Boc-3-methylpiperazine,
97%
[120737-59-9]



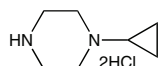
H52797
1-Boc-2-phenylpiperazine,
97%
[886766-60-5]



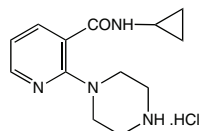
H51939
3-(4-Boc-1-piperazinylmethyl)
benzeneboronic acid pinacol
ester, 95%



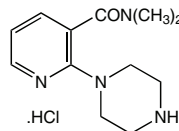
H51743
4-(4-Boc-1-piperazinylmethyl)
benzeneboronic acid pinacol
ester, 95%



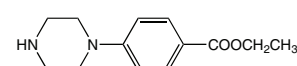
H52436
1-Cyclopropylpiperazine
dihydrochloride, 97%
[139256-79-4]



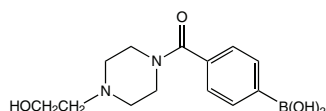
H51683
N-Cyclopropyl-2-(1-piperazinyl)
nicotinamide hydrochloride,
97%



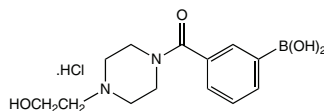
H51679
N,N-Dimethyl-2-(1-piperazinyl)
nicotinamide hydrochloride,
96%



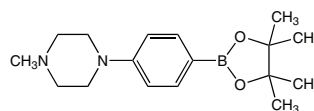
H52400
Ethyl 4-(1-piperazinyl)-
benzoate, 97+ %
[80518-57-6]



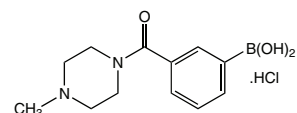
H52533
4-[4-(2-Hydroxyethyl)-1-
piperazinylcarbonyl]benzene-
boronic acid, 97%
[913835-44-6]



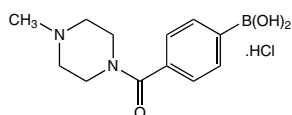
H53087
3-[4-(2-Hydroxyethyl)-1-
piperazinylcarbonyl]benzenebo-
ronic acid hydrochloride, 97%
[957060-95-6]



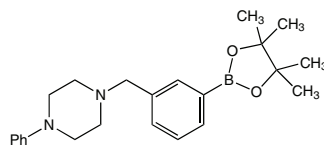
H51659
4-(4-Methyl-1-piperazinyl)ben-
zeneboronic acid pinacol ester
[747413-21-4]



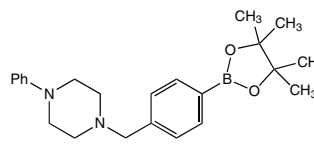
H53008
3-(4-Methyl-1-piperazinylcar-
bonyl)benzeneboronic acid
hydrochloride, 98%
[957060-92-3]



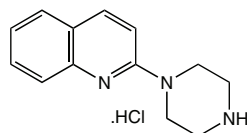
H53296
4-(4-Methyl-1-piperazinyl-
carbonyl)benzeneboronic acid
hydrochloride, 95%
[913835-43-5]



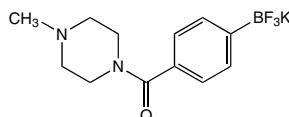
H51940
3-(4-Phenyl-1-piperazinyl-
methyl)benzeneboronic acid
pinacol ester, 95%



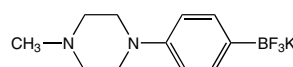
H51943
4-(4-Phenyl-1-piperazinyl-
methyl)benzeneboronic acid
pinacol ester, 95%



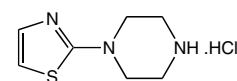
H51030
2-(1-Piperazinyl)quinoline
hydrochloride



H51889
Potassium 4-(4-methyl-1-
piperazinylcarbonyl)phenyl-
trifluoroborate, 95%

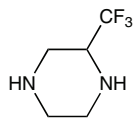


H51884
Potassium 4-(1-methyl-4-
piperazinyl)phenyl-
trifluoroborate, 95%



H52368
1-(2-Thiazolyl)piperazine
hydrochloride, 97+ %
[209733-13-1]

Piperazines



H32524

(±)-2-(Trifluoromethyl)-
piperazine, 97%
[131922-05-9]

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⁵Z. Zhang, X. Xu, S. Sun, Y. Yao, Y. Zhang and Qi Shen, *Chem. Commun.*, 2009, 7414.

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¹⁰A. Volonterio, L. Moisan, and J. Rebek, *Org. Lett.*, 2007, **9**, 3733.