



Chemicals

A constant flow  
of innovation  
for research and development

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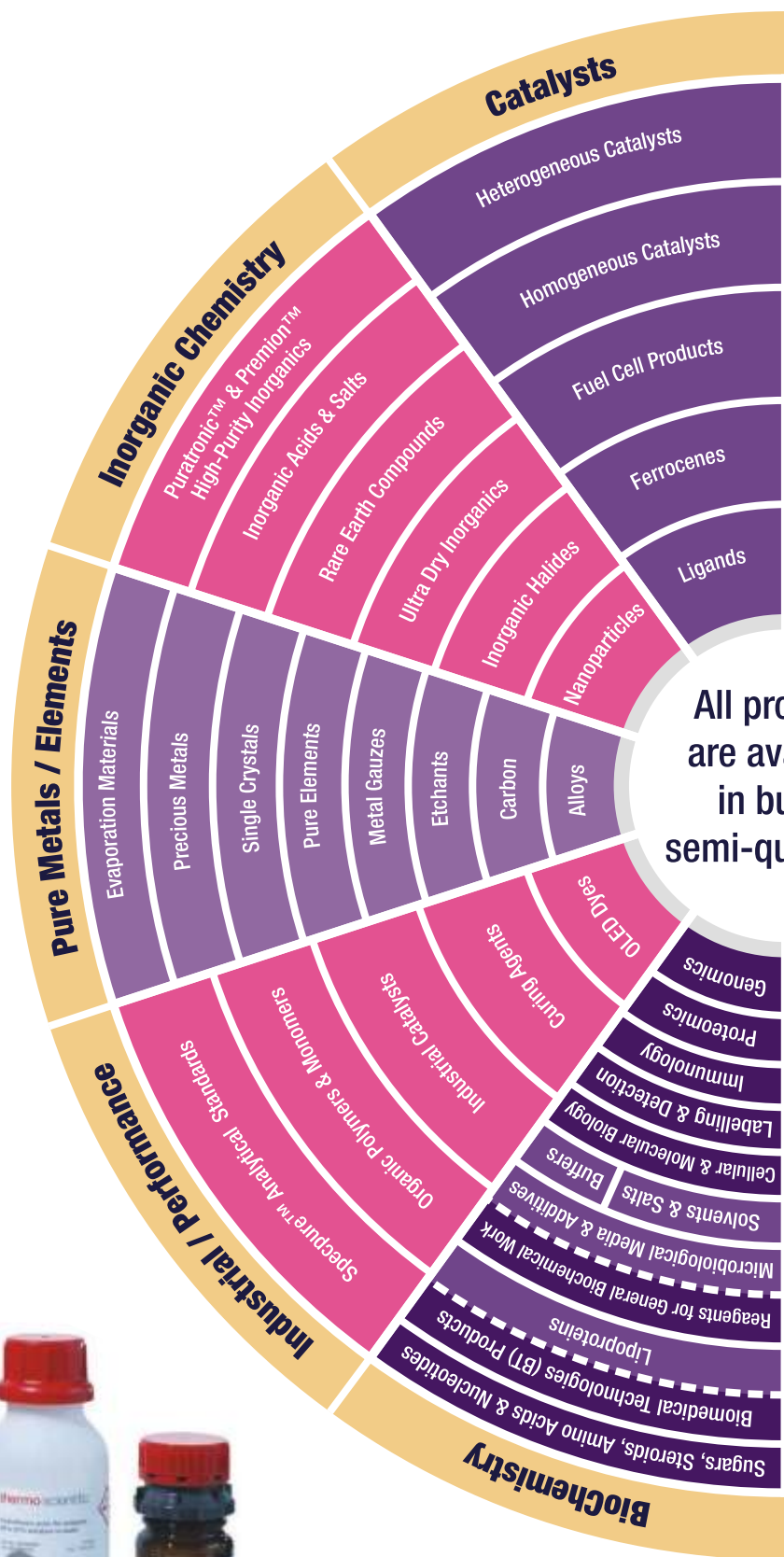
Chemicals

# Find the perfect chemicals, metals and

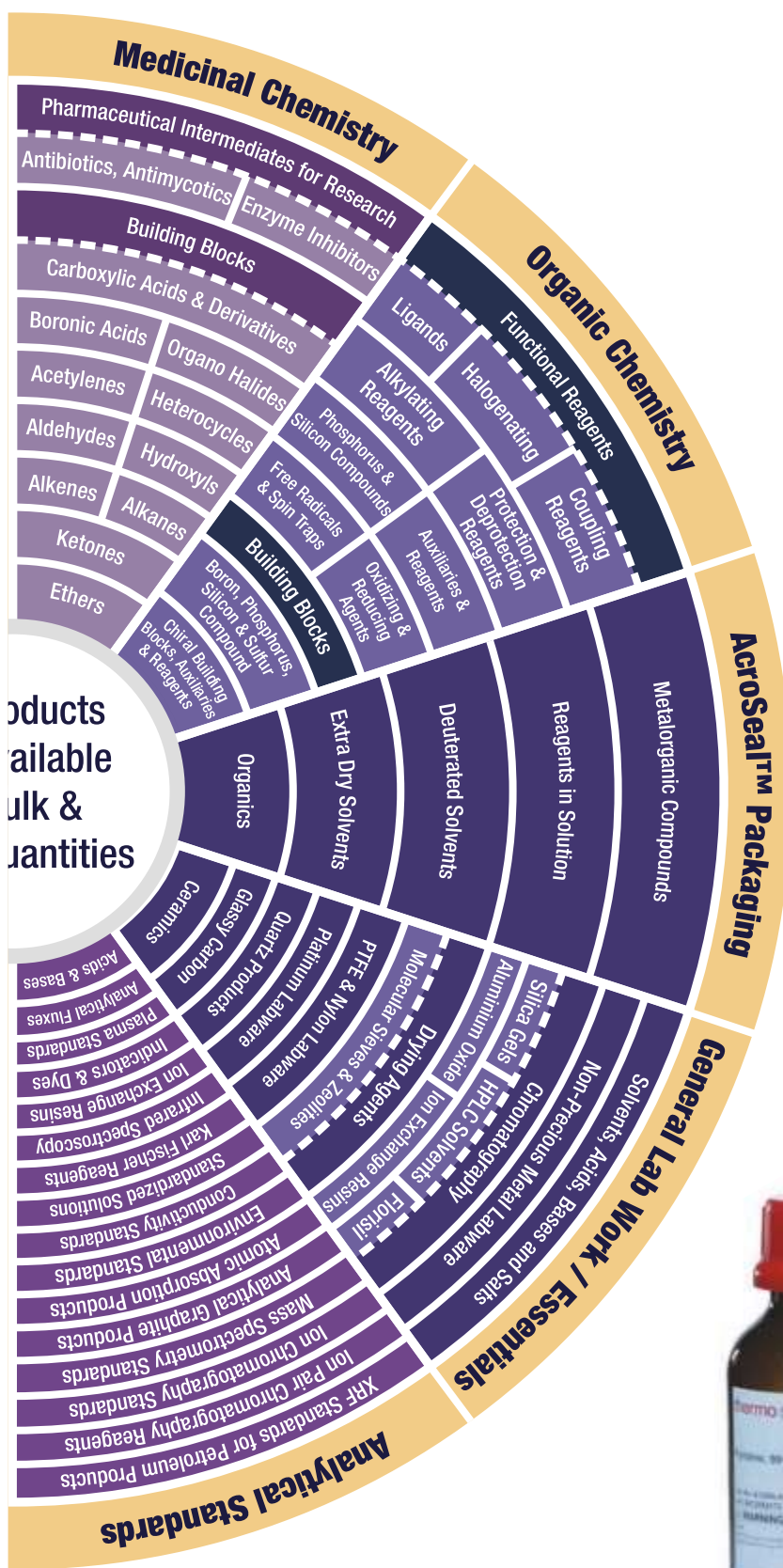
## Product Highlight

Our chemicals portfolio includes a full range of catalysts manufactured to stringent specifications and available in a range of purities and concentrations.

Find and order the products you need by using our innovative search tools at [thermofisher.com/chemicals](https://thermofisher.com/chemicals)



# catalysts for a wide span of applications



## Product Highlight

Our portfolio has a range of essentials, functional reagents and air and moisture sensitive products.

Our innovative AcroSeal packaging for air and moisture sensitive applications, helps products stay drier for longer.



## AcroSeal packaging

### Your solution for air and moisture-sensitive reagents

When using air- and moisture-sensitive solvents and reagents, it is essential that these products are not only as dry as possible when you first use them, but they should remain dry in storage as well.

Through the innovative quadrant-style screw cap and specially designed septum, AcroSeal™ packaging ensures that you have access to high-quality and low-moisture products every use, guaranteeing improved yield and consistency of your research experiments while reducing chemical waste.

Below is the complete list of products that are available in the industry leading AcroSeal packaging solution

#### Extra dry solvents

Stock No.	Description	CAS No.	Package Size
32680	Acetone, 99.8%, extra dry	67-64-1	100 mL, 1 L
32681	Acetonitrile, 99.9%, extra dry	75-05-8	100 mL, 1 L, 2.5 L
36431	Acetonitrile, 99.9%, extra dry over molecular sieve	75-05-8	100 mL, 500 mL, 1 L, 2.5 L
44839	Acetonitrile, 99.9%, extra dry, package of 4 × 25 mL bottles	75-05-8	100 mL
42925	Anisole, 99%, extra dry	100-66-3	100 mL, 1 L
39688	Benzyl alcohol, 98+%, extra dry	100-51-6	100 mL, 1 L
39721	Bis(2-methoxyethyl) ether, 99+%, extra dry	111-96-6	100 mL, 1 L
44310	Bis(2-methoxyethyl) ether, 99+%, extra dry over molecular sieve	111-96-6	100 mL, 1 L
39896	1-Butanol, 99+%, extra dry	71-36-3	100 mL, 1 L
61026	sec-Butanol, 99+%, extra dry	78-92-2	100 mL, 1 L
39695	2-Butanone, 99.5%, extra dry	78-93-3	100 mL, 1 L
42923	n-Butyl acetate, 99+%, extra dry	123-86-4	100 mL, 1 L
37521	tert-Butyl methyl ether, 99+%, extra dry	1634-04-4	100 mL, 1 L
37522	tert-Butyl methyl ether, 99+%, extra dry over molecular sieve	1634-04-4	100 mL, 1 L
39697	Chlorobenzene, 99.8%, extra dry	108-90-7	100 mL, 1 L
44300	Chlorobenzene, 99.5%, extra dry over molecular sieve	108-90-7	100 mL, 1 L
43382	1-Chlorobutane, 99.5%, anhydrous	109-69-3	100 mL, 1 L
32682	Chloroform, 99.9%, extra dry, stabilized	67-66-3	100 mL, 1 L, 2.5 L
36432	Chloroform, 99.9%, extra dry over molecular sieve, stabilized	67-66-3	100 mL, 500 mL, 1 L, 2.5 L
32683	Cyclohexane, 99.5%, extra dry	110-82-7	100 mL, 1 L, 2.5 L
36466	Cyclohexane, 99.5%, extra dry over molecular sieve	110-82-7	100 mL, 500 mL, 1 L, 2.5 L
39768	Cyclopentane, 95+%, extra dry	287-92-3	100 mL, 1 L
39725	Cyclopentyl methyl ether, 99.5%, extra dry, stabilized	5614-37-9	100 mL, 1 L
40617	Decahydronaphthalene, 99%, mixture of cis and trans, anhydrous	91-17-8	100 mL, 1 L
43460	Decane, 99%, anhydrous	124-18-5	100 mL, 1 L
39691	Di-n-butyl ether, 99+%, extra dry	142-96-1	100 mL, 1 L, 2.5 L
39696	1,2-Dichlorobenzene, 98+%, extra dry	95-50-1	100 mL, 1 L
32684	1,2-Dichloroethane, 99.8%, extra dry	107-06-2	100 mL, 1 L, 2.5 L
44301	1,2-Dichloroethane, 99.5%, extra dry over molecular sieve	107-06-2	100 mL, 1 L
43613	Diethyl carbonate, 99%, anhydrous	105-58-8	100 mL, 1 L
32686	Diethyl ether, 99.5%, extra dry, stabilized	60-29-7	100 mL, 1 L, 2.5 L
36433	Diethyl ether, 99.5%, extra dry over molecular sieve, stabilized	60-29-7	100 mL, 500 mL, 1 L, 2.5 L
44842	Diethyl ether, 99.5%, extra dry, stabilized, package of 4 × 25 mL bottles	60-29-7	100 mL
37523	N,N-Dimethylacetamide, 99.5%, extra dry over molecular sieve	127-19-5	100 mL, 1 L
39635	N,N-Dimethylacetamide, 99.5%, extra dry	127-19-5	100 mL, 1 L, 2.5 L

Stock No.	Description	CAS No.	Package Size
42873	Dimethyl carbonate, 99+%, extra dry	616-38-6	100 mL, 1 L
047390	N,N-Dimethylformamide, anhydrous, 99.8%, packaged under Argon	68-12-2	100 mL, 4 x 100 mL, 1 L, 4 x 1 L
32687	N,N-Dimethylformamide, 99.8%, extra dry	68-12-2	100 mL, 1 L, 2.5 L
34843	N,N-Dimethylformamide, 99.8%, extra dry over molecular sieve	68-12-2	100 mL, 500 mL, 1 L, 2.5 L
44838	N,N-Dimethylformamide, 99.8%, extra dry, package of 4 x 25 mL bottles	68-12-2	100 mL
047330	Dimethyl sulfoxide, HPLC grade, 99.9+%, packaged under Argon	67-68-5	100 mL, 250 mL, 1 L, 4 x 1 L
047305	1,4-Dioxane, anhydrous, 99.8%, packaged under Argon	123-91-1	100 mL, 1 L, 4 x 1 L
32689	1,4-Dioxane, 99.8%, extra dry, stabilized	123-91-1	100 mL, 1 L, 2.5 L
36434	1,4-Dioxane, 99.5%, extra dry over molecular sieve	123-91-1	100 mL, 500 mL, 1 L, 2.5 L
45017	1,4-Dioxane, 99.8%, extra dry, stabilized, package of	123-91-1	100 mL
43156	1,3-Dioxolane, 99.8%, anhydrous, stabilized with 75 ppm BHT	646-06-0	100 mL, 1 L
43459	n-Dodecane, 99%, anhydrous	112-40-3	100 mL, 1 L
39769	Ethanol, 99.5%, extra dry, absolute	64-17-5	100 mL, 1 L, 2.5 L
32690	Ethyl acetate, 99.9%, extra dry	141-78-6	100 mL, 1 L, 2.5 L
36435	Ethyl acetate, 99.9%, extra dry over molecular sieve	141-78-6	100 mL, 1 L, 2.5 L
43380	Ethylbenzene, 99.8%, anhydrous	100-41-4	100 mL, 1 L
43381	Ethylene glycol, 99.8%, anhydrous	107-21-1	100 mL, 1 L
44298	Ethylene glycol dimethyl ether, 99.5%, extra dry over molecular sieve	110-71-4	100 mL, 1 L
61035	Ethylene glycol dimethyl ether, 99+%, extra dry	110-71-4	100 mL, 1 L
42924	Ethyl formate, 98+%, extra dry	109-94-4	100 mL
32691	n-Heptane, 99+%, extra dry	142-82-5	100 mL, 1 L
36436	n-Heptane, 99+%, extra dry over molecular sieve	142-82-5	100 mL, 1 L, 2.5 L
43614	n-Hexadecane, 99%, anhydrous	544-76-3	100 mL, 1 L
32692	n-Hexane, 96+%, extra dry	110-54-3	100 mL, 1 L, 2.5 L
36437	n-Hexane, 97%, extra dry over molecular sieve	110-54-3	100 mL, 500 mL, 1 L, 2.5 L
61037	Hexanes, 99.9%, extra dry, mixture of isomers	92112-69-1	100 mL, 1 L
43386	Hexyl alcohol, 99%, anhydrous	111-27-3	100 mL, 1 L
32696	Isopropanol, 99.8%, extra dry	67-63-0	100 mL, 1 L, 2.5 L
36440	Isopropanol, 99.5%, extra dry over molecular sieve	67-63-0	100 mL, 500 mL, 1 L, 2.5 L
047339	Methanol, anhydrous, 99.9%, packaged under Argon	67-56-1	100 mL, 250 mL, 1 L
32695	Methanol, 99.9%, extra dry	67-56-1	100 mL, 1 L, 2.5 L
36439	Methanol, 99.8%, extra dry over molecular sieve	67-56-1	100 mL, 500 mL, 1 L, 2.5 L
44841	Methanol, 99.9%, extra dry, package of 4 x 25 mL bottles	67-56-1	100 mL
39689	2-Methoxyethanol, 99+%, extra dry	109-86-4	100 mL, 1 L
37183	Methyl acetate, 99+%, extra dry	79-20-9	100 mL, 1 L, 2.5 L
39722	2-Methylbutane, 99+%, extra dry	78-78-4	100 mL, 1 L
39724	Methylcyclohexane, 98+%, extra dry	108-87-2	100 mL, 1 L
39895	2-Methyl-1-propanol, 99+%, extra dry	78-83-1	100 mL, 1 L
32693	1-Methyl-2-pyrrolidinone, 99.5%, extra dry	872-50-4	100 mL, 1 L, 2.5 L
36438	1-Methyl-2-pyrrolidinone, 99.5%, extra dry over molecular sieve	872-50-4	100 mL, 500 mL, 1 L, 2.5 L
32688	Methyl sulfoxide, 99.7+%, extra dry	67-68-5	100 mL, 1 L, 2.5 L
34844	Methyl sulfoxide, 99.7+%, extra dry over molecular sieve	67-68-5	100 mL, 500 mL, 1 L, 2.5 L
39662	2-Methyltetrahydrofuran, 99+%, extra dry, stabilized	96-47-9	100 mL, 1 L, 2.5 L
39663	2-Methyltetrahydrofuran, 99+%, extra dry over molecular sieve, stabilized	96-47-9	100 mL, 1 L
39720	2-Methyltetrahydrofuran, 99+%, extra dry, stabilizer free	96-47-9	100 mL, 1 L
43563	n-Nonane, 99%, anhydrous	111-84-2	100 mL
39690	n-Octane, 99+%, extra dry	111-65-9	100 mL, 1 L

Stock No.	Description	CAS No.	Package Size
43458	1-Octanol, 99%, anhydrous	111-87-5	100 mL, 1 L
39723	n-Pentane, 99+%, extra dry	109-66-0	100 mL, 1 L
44299	n-Pentane, 99+%, extra dry over molecular sieve	109-66-0	100 mL, 1 L
39692	Petroleum ether, extra dry, boiling range 40 to 60°C, water <50ppm	64742-49-0	100 mL, 1 L
39694	1-Propanol, 99.5%, extra dry	71-23-8	100 mL, 1 L
42926	Propylene carbonate, 99.5%, anhydrous	108-32-7	100 mL, 800 mL
047323	Pyridine, anhydrous, 99.5+%, packaged under Argon	110-86-1	100 mL, 1 L
33942	Pyridine, 99.5%, extra dry	110-86-1	100 mL, 1 L, 2.5 L
36442	Pyridine, 99.5%, extra dry over molecular sieve	110-86-1	100 mL, 500 mL, 1 L, 2.5 L
32697	Tetrahydrofuran, 99.85%, extra dry, stabilized	109-99-9	100 mL, 1 L, 2.5 L
34845	Tetrahydrofuran, 99.5%, extra dry over molecular sieve, stabilized	109-99-9	100 mL, 500 mL, 1 L, 2.5 L
44836	Tetrahydrofuran, 99.85%, extra dry, stabilized, package of 4 x 25 mL bottles	109-99-9	100 mL
45707	Tetrahydrofuran, 99.9%, extra dry, unstabilized	109-99-9	100 mL, 1 L, 2.5 L
047327	Tetrahydrofuran, anhydrous, 99.8+%, BHT-free, over molecular sieves, packed with Argon	109-99-9	100 mL, 1 L
047382	Tetrahydrofuran, anhydrous, 99.8+%, stabilized with 0.025% BHT, packaged under Argon	109-99-9	100 mL, 1 L, 4 x 1 L
047329	Tetrahydrofuran, Spectrophotometric grade, 99.7+%, unstabilized, packaged under Argon	109-99-9	100 mL, 250 mL, 1 L, 4 x 1 L
32698	Toluene, 99.85%, extra dry	108-88-3	100 mL, 1 L, 2.5 L
36441	Toluene, 99.85%, extra dry over molecular sieve	108-88-3	100 mL, 500 mL, 1 L, 2.5 L
44840	Toluene, 99.85%, extra dry, package of 4 x 25 mL bottles	108-88-3	100 mL
42927	Triethyl orthoformate, 98%, anhydrous	122-51-0	100 mL, 800 mL
42928	Trimethyl orthoformate, 99+%, anhydrous	149-73-5	100 mL, 800 mL
32694	2,2,4-Trimethylpentane, 99.5%, extra dry	540-84-1	100 mL, 1 L
36467	2,2,4-Trimethylpentane, 99.5%, extra dry over molecular sieve	540-84-1	100 mL, 1 L
44302	o-Xylene, 99%, extra dry	95-47-6	100 mL, 1 L
15893	m-Xylene, 99%, extra dry	108-38-3	100 mL, 1 L
39693	Xylenes, 98+%, extra dry, mixed isomers	1330-20-7	100 mL, 1 L

## For Biochemistry

44705	n-Butyl acetate, 99.5%, for biochemistry	123-86-4	1 L, 2.5 L
40691	Dichloromethane, 99.9%, for biochemistry, stabilized with approx. 50 ppm amylene	75-09-2	1 L, 2.5 L
44709	N,N-Dimethylformamide, 99.9%, for biochemistry	68-12-2	1 L, 2.5 L
44706	1,4-Dioxane, 99%, for biochemistry, stabilized	123-91-1	1 L, 2.5 L
36424	Ethyl acetate, 99.8%, for biochemistry	141-78-6	1 L, 2.5 L
44707	n-Heptane, 99%, for biochemistry	142-82-5	1 L, 2.5 L
44708	Isopropanol, 99%, for biochemistry and histology	67-63-0	1 L, 2.5 L
12479	Methanol, 99.9%, for biochemistry	67-56-1	1 L, 2.5 L
41272	3-Methyl-1-butanol, 99%, for biochemistry	123-51-3	100 mL, 1 L, 2.5 L
46529	1-Methylimidazole, for biochemistry, anhydrous	616-47-7	1 L, 2.5 L
44790	Pyridine, 99.8%, for biochemistry	110-86-1	1 L, 2.5 L
45053	Tetrahydrofuran, 99.8%, for biochemistry, unstabilized	109-99-9	1 L, 2.5 L
44724	Xylenes, 99%, for biochemistry and histology, mixed isomers with ethylbenzene	1330-20-7	1 L, 2.5 L

Stock No.	Description	CAS No.	Package Size
<b>Organics</b>			
42717	Acetaldehyde, 99.5%, extra pure	75-07-0	100 mL, 800 mL
43095	Allyl glycidyl ether, 99+%	106-92-3	100 mL, 800 mL
43094	3-Aminopropyltriethoxysilane, 99%	919-30-2	100 mL, 800 mL
20094	BDCS, silylation reagent	1185092-02-7	100 mL, 800 mL
37836	Benzaldehyde, 99.5+%, pure, redistilled	100-52-7	100 mL, 1 L
22027	Benzoyl chloride, 99%, pure	98-88-4	100 mL
42723	Benzylamine, 99.5+%	100-46-9	100 mL, 800 mL
43093	Borane-N,N-diethylaniline complex, 97%	13289-97-9	100 mL
43075	Bromotrimethylsilane, 98%	2857-97-8	100 mL
33007	1,3-Butadiene diepoxide, 98+%	1464-53-5	50 mL
43087	1-Butanethiol, 98%	109-79-5	100 mL, 800 mL
42724	tert-Butylamine, 99%	75-64-9	100 mL, 800 mL
43092	tert-Butylchlorodiphenylsilane, 98%	58479-61-1	100 mL
43402	Chloro(chloromethyl)dimethylsilane, 98%	1719-57-9	100 mL
42727	Chlorodiisopropylphosphine, 96%	40244-90-4	50 mL
42643	Chlorotrimethylsilane, 98%	75-77-4	100 mL
40573	o-Cresol, 99%	95-48-7	100 mL, 800 mL
42718	Crotonaldehyde, 99+%	123-73-9	100 mL, 800 mL
11141	1,5-Cyclooctadiene, 99+%, stabilized, purified by redistillation	111-78-4	100 mL, 800 mL
43401	Diacetoxymethylsilane, 98%	2182-66-3	100 mL
42728	Di-tert-butylchlorophosphine, 96%	13716-10-4	50 mL
43088	Dichlorodimethylsilane, 99+%	75-78-5	100 mL, 800 mL
43089	Dichlorophenylsilane, 97%	80-10-4	100 mL, 800 mL
37830	Diisopropylamine, 99.5%, redistilled	108-18-9	100 mL, 1 L
44618	N,N'-Diisopropylcarbodiimide, 99%	693-13-0	100 mL
45959	N,N-Diisopropylethylamine, 99.5%	7087-68-5	100 mL, 1 L
35153	Dimethoxydimethylsilane, 95+%	1112-39-6	100 mL, 1 L
44615	N,N-Dimethylformamide dimethyl acetal, ca. 97%	4637-24-5	100 mL
43083	Dimethyl sulfate, 99+%	77-78-1	100 mL, 1 L
42729	Diphenylphosphine, 95%	829-85-6	50 mL
43071	Epichlorohydrin, 99%	106-89-8	100 mL, 800 mL
42725	Ethanolamine, 99%	141-43-5	100 mL, 800 mL
43079	Ethyl chloroformate, 99%	541-41-3	100 mL, 800 mL
42726	Ethylenediamine, 99+%	107-15-3	100 mL, 800 mL
43308	Ethyltrimethoxysilane, 97%	5314-55-6	100 mL, 1 L
42719	4-Fluorobenzaldehyde, 98+%	459-57-4	100 mL
43085	1,1,1,3,3,3-Hexamethyldisilazane, 98%	999-97-3	100 mL, 1 L
43307	1,1,3,3,5,5-Hexamethyltrisiloxane, 95+%	1189-93-1	100 mL
12075	1-Hexene, 99%	592-41-6	100 mL, 1 L
42642	Iodotrimethylsilane, 95-97%, stabilized	16029-98-4	100 mL
43081	Isobutyl chloroformate, 98%	543-27-1	100 mL
19650	Methacrolein, 95%, stabilized	78-85-3	100 mL
33128	Methacryloyl chloride, 95%, with 400 ppm Phenothiazine as stabilizer	920-46-7	100 mL, 1 L
38171	1-Methoxy-2-methyl-2-propanol, 98%	3587-64-2	100 mL
43084	Methyl chloroformate, 99%	79-22-1	100 mL
43082	Methyl disulfide, 99%	624-92-0	100 mL
43179	4,4'-Methylenebis(cyclohexyl isocyanate), 90%, mixture of isomers	5124-30-1	100 mL, 1 L

Stock No.	Description	CAS No.	Package Size
43280	N-Methylmorpholine, 99.5%, purified by re-distillation	109-02-4	100 mL, 1 L
43264	Methyltrimethoxysilane, 97%	1185-55-3	100 mL, 1 L
43385	Morpholine, 99.5%, purified by redistillation	110-91-8	100 mL, 800 mL
22413	2-Pentanone, 99+%, purified by redistillation	107-87-9	100 mL, 1 L
43073	1-Pentene, 97%	109-67-1	100 mL
43384	Piperidine, 99.5%, purified by redistillation	110-89-4	100 mL, 1 L
42720	Pivaldehyde, 97%	630-19-3	100 mL
42721	Propionaldehyde, 99+%	123-38-6	100 mL
43086	(±1)-Propylene oxide, 99.5%, extra pure	75-56-9	100 mL, 800 mL
44614	Pyrrolidine, 99.5+%, purified by redistillation	123-75-1	100 mL, 800 mL
43080	Succinyl chloride, ca. 95%	543-20-4	100 mL
42036	Tetraethyl orthosilicate, 98%	78-10-4	100 mL, 1 L
43383	N,N,N',N'-Tetramethylethylenediamine, 99.5%, purified by redistillation	110-18-9	100 mL
42733	Tetramethylsilane, 99%	75-76-3	100 mL
43072	Thiophenol, 99%	108-98-5	100 mL, 800 mL
43076	p-Toluenesulfonyl isocyanate, 96%	4083-64-1	100 mL
42866	Tributyl borate, 98%	688-74-4	100 mL, 800 mL
42730	Tri-n-butylphosphine, 95%	998-40-3	100 mL, 800 mL
42865	Triethyl borate, 97%	150-46-9	100 mL, 800 mL
44616	Triethylsilane, 99%	617-86-7	100 mL, 1 L
42714	Triisopropyl borate, 98+%	5419-55-6	100 mL, 800 mL
44617	Triisopropylsilane, 98%	6485-79-9	100 mL
34612	Trimethyl borate, 99%	121-43-7	100 mL, 800 mL
42206	Trimethylsilyl cyanide, 98%	7677-24-9	100 mL
43646	Trioctylphosphine, 90%, technical grade	4731-53-7	100 mL
43306	Vinyltrimethoxysilane, 97%	2768-02-7	100 mL, 1 L

## Organometallic compounds

20953	Allylmagnesium bromide, 1 M solution in diethyl ether	1730-25-2	100 mL, 800 mL
20967	Allylmagnesium chloride, 1.7 M solution in THF	2622-05-1	100 mL, 800 mL
38955	Benzylmagnesium chloride, 1.4 M solution in THF	6921-34-2	100 mL, 800 mL
44032	2-Benzyloxyphenylmagnesium bromide, 1 M solution in THF	328000-16-4	50 mL
43622	4-Benzyloxyphenylmagnesium bromide, 0.8 M solution in THF	120186-59-6	100 mL
43162	4-Biphenylmagnesium bromide, 0.5 M solution in THF	3315-91-1	100 mL
30176	Bis(cyclopentadienyl)dimethyltitanium, 5 wt% in toluene	1271-66-5	100 mL
39215	3,5-Bis(trifluoromethyl)phenylmagnesium bromide, 0.5 M solution in THF	112981-69-8	100 mL
43161	2-Bromobenzylmagnesium bromide, 0.25 M solution in diethyl ether	56812-60-3	100 mL
43160	3-Bromobenzylmagnesium bromide, 0.25 M solution in diethyl ether	107549-22-4	100 mL
42746	3-Butenylmagnesium bromide, 0.5 M solution in THF	7103-09-5	100 mL, 800 mL
38118	n-Butylethylmagnesium, 0.9 M solution in heptane	62202-86-2	100 mL, 800 mL
33168	n-Butylmagnesium chloride, 20 wt% solution in THF/Toluene	693-04-9	100 mL, 800 mL
39430	tert-Butylmagnesium chloride, 1.7 M solution in diethyl ether	677-22-5	100 mL, 800 mL
33167	tert-Butylmagnesium chloride, 1.7 M solution in THF	677-22-5	100 mL, 800 mL
43286	4-tert-Butylphenylmagnesium bromide, 2 M solution in diethyl ether	63488-10-8	100 mL
43199	3-Chloro-4-fluorophenylmagnesium bromide, 0.5 M solution in THF	413589-34-1	50 mL
43200	3-Chloro-5-fluorophenylmagnesium bromide, 0.5 M solution in THF	480438-50-4	50 mL

Stock No.	Description	CAS No.	Package Size
39908	4-Chloro-3-fluorophenylmagnesium bromide, 0.5 M solution in THF	170793-00-7	100 mL
43198	4-Chloro-2-methylphenylmagnesium bromide, 0.5 M solution in THF	480438-47-9	50 mL
39749	3-Chlorophenylmagnesium bromide, 0.5 M solution in THF	36229-42-2	100 mL
37740	4-Chlorophenylmagnesium bromide, 1 M solution in diethyl ether	873-77-8	100 mL, 800 mL
37725	4-Chlorophenylmagnesium bromide, 1 M solution in THF/toluene	873-77-8	100 mL, 800 mL
43197	5-Chloro-2-thienylmagnesium bromide, 0.5 M slurry in THF	111762-30-2	50 mL
37734	Cyclohexylmagnesium chloride, 1.3 M solution in THF/toluene	931-51-1	100 mL, 800 mL
43361	Cyclohexylmethylmagnesium bromide, 0.25 M solution in THF	35166-78-0	100 mL
42745	Cyclopentylmagnesium bromide, 2.0 M solution in diethyl ether	33240-34-5	100 mL, 800 mL
20846	Cyclopentylmagnesium chloride, 2 M solution in diethyl ether	32916-51-1	100 mL, 800 mL
39761	Cyclopropylmagnesium bromide, 0.5 M solution in THF	35166-78-0	100 mL
42745	Cyclopentylmagnesium bromide, 2.0 M solution in diethyl ether	33240-34-5	100 mL, 800 mL
20846	Cyclopentylmagnesium chloride, 2 M solution in diethyl ether	32916-51-1	100 mL, 800 mL
44595	Cyclopropylmagnesium bromide, 0.5 M solution in 2-MeTHF	23719-80-4	100 mL, 800 mL
43282	Cyclopropylzinc bromide, 0.5 M solution in THF	126403-68-7	50 mL
37777	Di-n-butylmagnesium, 0.5 M solution in heptane	1191-47-5	100 mL, 800 mL
43157	3,4-Dichlorophenylmagnesium bromide, 0.5 M solution in THF	79175-35-2	50 mL
43301	3,5-Dichlorophenylmagnesium bromide, 0.5 M solution in THF	82297-90-3	50 mL
38115	Diethylaluminium chloride, 0.9 M solution in toluene	96-10-6	100 mL, 800 mL
38116	Diethylaluminium iodide, 0.9 M solution in toluene	2040-00-8	100 mL, 800 mL
37731	Diethylzinc, 1.5 M solution in toluene	557-20-0	100 mL, 800 mL
39951	3,4-Difluorophenylmagnesium bromide, 0.5 M solution in THF	90897-92-0	100 mL
42744	3,5-Difluorophenylmagnesium bromide, 0.5 M solution in THF	62351-47-7	100 mL
37756	Diisobutylaluminium chloride, 0.8 M solution in heptane	1779-25-5	100 mL, 800 mL
H37222	Diisobutylaluminum hydride, 1 M solution in hexane, packaged under nitrogen	1191-15-7	100 mL, 400 ml, 800 mL
37779	Dimethylaluminium chloride, 0.9 M solution in heptane	1184-58-3	100 mL, 800 mL
45061	4-(N,N-Dimethyl)aniline magnesium bromide, 0.5 M solution in THF	7353-91-5	50 mL
43196	3,5-Dimethyl-4-methoxyphenylmagnesium bromide, 0.5 M solution in THF	185416-17-5	50 mL
43193	2,3-Dimethylphenylmagnesium bromide, 0.5 M solution in THF	134640-85-0	50 mL
43195	2,4-Dimethylphenylmagnesium bromide, 0.5 M solution in THF	34589-46-3	50 mL
43191	3,4-Dimethylphenylmagnesium bromide, 0.5 M solution in THF	89980-68-7	50 mL
43194	3,5-Dimethylphenylmagnesium bromide, 0.5 M solution in THF	34696-73-6	50 mL
37724	Dimethylzinc, 1.2 M solution in toluene	544-97-8	100 mL, 800 mL
43190	(1,3-Dioxan-2-ylethyl)magnesium bromide, 0.5 M solution in THF	480438-44-6	50 mL
43886	(1,3-Dioxolan-2-ylmethyl)magnesium bromide, 0.5 M solution in THF	180675-22-3	100 mL, 800 mL
18546	Ethylaluminium sesquichloride, 0.4 M solution in hexane	12075-68-2	100 mL, 800 mL
18545	Ethylaluminium dichloride, 0.9 M solution in heptane	563-43-9	100 mL, 800 mL
42804	Ethylaluminium dichloride, 1.8 M solution in toluene	563-43-9	100 mL, 800 mL
43595	(2-Ethylhexyl)magnesium bromide, 1 M solution in diethyl ether	90224-21-8	100 mL
21047	Ethylmagnesium bromide, 0.9 M solution in THF	925-90-6	100 mL, 800 mL
34729	Ethylmagnesium bromide, 3 M in diethyl ether	925-90-6	100 mL, 800 mL
18353	Ethylmagnesium bromide, ca. 3.2 M solution in 2-MeTHF	925-90-6	100 mL, 800 mL
43189	4-Ethylphenylmagnesium bromide, 0.5 M solution in THF	22873-28-5	50 mL
43912	Ethynylmagnesium bromide, 0.5 M solution in THF	4301-14-8	100 mL, 800 mL
38895	Ethynylmagnesium chloride, 0.6 M solution in THF/Toluene	65032-27-1	100 mL, 800 mL
42679	4-Fluorobenzylmagnesium chloride, 0.25 M solution in THF	1643-73-8	50 mL

Stock No.	Description	CAS No.	Package Size
43364	4-Fluorobenzylzinc chloride, 0.5 M solution in THF	312693-07-5	50 mL
43187	3-Fluoro-4-methoxyphenylmagnesium bromide, 0.5 M solution in THF	112780-67-3	50 mL
43188	5-Fluoro-2-methoxyphenylmagnesium bromide, 0.5 M solution in THF	188132-02-7	50 mL
43185	3-Fluoro-4-methylphenylmagnesium bromide, 0.5 M solution in THF	185077-02-5	50 mL
43184	4-Fluoro-2-methylphenylmagnesium bromide, 0.5 M solution in THF	30897-90-6	50 mL
43186	4-Fluoro-3-methylphenylmagnesium bromide, 0.5 M solution in THF	82297-89-0	50 mL
43183	5-Fluoro-2-methylphenylmagnesium bromide, 0.5 M solution in THF	186496-59-3	50 mL
42782	3-Fluorophenylmagnesium bromide, 1 M solution in THF	17318-03-5	100 mL
37737	4-Fluorophenylmagnesium bromide, 2 M solution in diethyl ether	352-13-6	100 mL, 800 mL
37723	4-Fluorophenylmagnesium bromide, 0.8 M solution in THF	352-13-6	100 mL, 800 mL
43303	Heptylmagnesium bromide, 1 M solution in diethyl ether	13125-66-1	100 mL
42776	Hexylmagnesium bromide, 0.8 M solution in THF	3761-92-0	100 mL, 800 mL
43468	Hexylmagnesium chloride, 2 M solution in THF	44767-62-6	100 mL, 800 mL
37759	Isobutyllithium, 1.7 M solution in heptane	920-36-5	100 mL, 800 mL
42739	Isobutylmagnesium bromide, 2 M solution in diethyl ether	926-62-5	100 mL, 800 mL
20952	Isobutylmagnesium chloride, 2 M solution in diethyl ether	5674-02-2	100 mL, 800 mL
42775	Isopropenylmagnesium bromide, 0.5 M solution in THF	13291-18-4	100 mL, 800 mL
42678	Isopropylmagnesium bromide, 3 M solution in 2-MeTHF	920-39-8	100 mL
21285	Isopropylmagnesium chloride, 2.0 M solution in THF	1068-55-9	100 mL, 800 mL
38628	Isopropylmagnesium chloride - Lithium chloride complex, 1.3 M solution in THF	745038-86-2	100 mL, 800 mL
43163	4-Isopropylphenylmagnesium bromide, 0.5 M solution in THF	18620-03-6	50 mL
38065	Lithium (trimethylsilyl)acetylide, 0.5 M solution in THF	54655-07-1	100 mL, 800 mL
21073	2-Mesitylmagnesium bromide, 1 M solution in THF	2633-66-1	100 mL
43373	2-Methoxybenzylmagnesium chloride, 0.25 M solution in THF	480438-46-8	50 mL
43182	3-Methoxybenzylmagnesium chloride, 0.25 M solution in THF	26905-40-8	50 mL
42742	4-Methoxybenzylmagnesium chloride, 0.25 M solution in THF	38769-92-5	100 mL
43181	4-Methoxy-2-methylphenylmagnesium bromide, 0.5 M solution in THF	148706-30-3	50 mL
43180	6-Methoxy-2-naphthylmagnesium bromide, 0.5 M solution in THF	38046-82-1	50 mL
44080	4-Methoxyphenethylmagnesium chloride, 0.5 M solution in THF	211115-05-8	50 mL
42675	3-Methoxyphenylmagnesium bromide, 1 M solution in THF/toluene	36282-40-3	100 mL, 800 mL
37742	4-Methoxyphenylmagnesium bromide, 1 M solution in THF	13139-86-1	100 mL, 800 mL
42741	2-Methylallylmagnesium chloride, 0.5 M solution in THF	5674-01-1	100 mL
43371	2-Methylbenzylmagnesium chloride, 0.25 M solution in THF	29875-05-6	50 mL
43370	4-Methylbenzylmagnesium chloride, 0.5 M solution in THF	29875-07-8	50 mL
37738	Methylmagnesium bromide, 1 M solution in THF	75-16-1	100 mL, 800 mL
44600	Methylmagnesium bromide, 1 M solution in CPME	75-16-1	100 mL, 800 mL
18354	Methylmagnesium bromide, 3 M solution in diethyl ether	75-16-1	100 mL, 800 mL
39112	Methylmagnesium bromide, 3.2 M solution in 2-MeTHF	75-16-1	100 mL, 800 mL
25256	Methylmagnesium chloride, 3 M (22 wt.%) solution in THF	676-58-4	100 mL, 800 mL
42740	Methylmagnesium iodide, 3 M solution in diethyl ether	917-64-6	100 mL, 800 mL
43368	2-Methyl-1-naphthylmagnesium bromide, 0.25 M solution in THF	21450-90-8	50 mL
43369	4-Methyl-1-naphthylmagnesium bromide, 0.25 M solution in THF	115913-58-1	50 mL
43875	2-Methyl-2-phenylpropylmagnesium chloride, 0.5 M solution in diethyl ether	35293-35-7	100 mL, 800 mL
43556	2-Methyl-1-propenylmagnesium bromide, 0.5 M solution in THF	38614-36-7	100 mL, 800 mL
43178	3-Methyl-2-thienylmagnesium bromide, 0.5 M solution in THF	95184-07-9	50 mL

Stock No.	Description	CAS No.	Package Size
43175	[2-(4-Morpholinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-77-9	50 mL
43176	[3-(4-Morpholinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-76-8	50 mL
43177	[4-(4-Morpholinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-75-7	50 mL
43174	2-Naphthylmagnesium bromide, 0.5 M solution in THF	21473-01-8	50 mL
44078	Nonylmagnesium bromide, 1 M solution in diethyl ether	39691-62-8	100 mL
42781	Octylmagnesium bromide, 2 M solution in diethyl ether	17049-49-9	100 mL, 800 mL
42803	Octylmagnesium chloride, 1.4 M solution in THF	38841-98-4	100 mL, 800 mL
43616	Pentadecylmagnesium bromide, 0.5 M solution in THF	78887-70-4	50 mL
43874	Pentafluorophenylmagnesium bromide, 0.5 M solution in diethyl ether	879-05-0	100 mL
43600	Pentamethylenebis(magnesium bromide), 0.5 M solution in THF	23708-48-7	100 mL
43555	Pentylmagnesium bromide, 2 M solution in diethyl ether	693-25-4	100 mL, 800 mL
43621	Pentylmagnesium chloride, 1.3 M solution in THF	6393-56-2	100 mL, 800 mL
43173	9-Phenanthrylmagnesium bromide, 0.5 M solution in THF	71112-64-6	50 mL
42780	Phenethylmagnesium chloride, 1 M solution in THF	90878-19-6	100 mL, 800 mL
43172	4-Phenoxyphenylmagnesium bromide, 0.5 M solution in THF	21473-02-9	50 mL
44596	Phenylmagnesium bromide, 2 M solution in CPME	100-58-3	100 mL, 800 mL
43171	[2-(1-Piperidinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-81-5	50 mL
43170	[3-(1-Piperidinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-82-6	50 mL
43169	[4-(1-Piperidinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-83-7	50 mL
43467	1-Propenylmagnesium bromide, 0.5 M solution in THF	14092-04-7	100 mL, 800 mL
43168	4-n-Propylphenylmagnesium bromide, 0.5 M solution in THF	87942-08-3	50 mL
42607	1-Propynylmagnesium bromide, 0.5 M solution in THF	16466-97-0	100 mL, 800 mL
43363	2-Pyridylzinc bromide, 0.5 M solution in THF	218777-23-2	50 mL
43165	[2-(1-Pyrrolidinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-80-4	50 mL
43166	[3-(1-Pyrrolidinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-79-1	50 mL
43167	[4-(1-Pyrrolidinylmethyl)phenyl]magnesium bromide, 0.25 M solution in THF	480424-78-0	50 mL
42606	Tebbe reagent, 0.5 M solution in toluene	67719-69-1	100 mL
43598	Tetraisobutyldialuminoxane, 10 wt.% solution in toluene	998-00-5	100 mL, 800 mL
43461	2-Thienylmagnesium bromide, 1 M solution in THF	5713-61-1	50 mL
43365	3-Thienylmagnesium iodide, 0.3 M solution in THF	172035-86-8	50 mL
39907	4-Thioanisolemagnesium bromide, 0.5 M solution in THF	18620-04-7	100 mL
42747	o-Tolylmagnesium bromide, 2 M solution in diethyl ether	932-31-0	100 mL, 800 mL
42676	p-Tolylmagnesium bromide, approx. 0.5 M solution in diethyl ether	4294-57-9	100 mL, 800 mL
43597	m-Tolylmagnesium chloride, 1 M solution in THF	121905-60-0	100 mL, 800 mL
38117	Triethylaluminium, 0.6 M solution in heptane	97-93-8	100 mL, 800 mL
43360	3,4,5-Trifluorophenylmagnesium bromide, 0.3 M solution in THF	156006-28-9	100 mL
18542	Triisobutylaluminium, 1.1 M solution in toluene	100-99-2	100 mL, 800 mL
18927	Trimethylaluminium, 1.0 M solution in heptane	75-24-1	100 mL, 800 mL
37745	(Trimethylsilyl)methylolithium, 0.7 M (10 wt%) solution in hexanes	1822-00-0	100 mL, 800 mL

Stock No.	Description	CAS No.	Package Size
37746	(Trimethylsilyl)methylmagnesium chloride, 1.3 M solution in THF	13170-43-9	100 mL, 800 mL
44597	Vinylmagnesium bromide, 1 M solution in 2-MeTHF	1826-67-1	100 mL, 800 mL
20939	Vinylmagnesium bromide, 0.7 M solution in THF	1826-67-1	100 mL, 800 mL
25259	Vinylmagnesium chloride, 1.9 M (16.5 wt.%) solution in THF	3536-96-7	100 mL, 800 mL

## Reagents in solution

38774	Acetyl chloride, 1 M solution in dichloromethane	75-36-5	100 mL, 800 mL
36838	Ammonia, 0.5 M solution in 1,4-dioxane	7664-41-7	100 mL, 1 L
36839	Ammonia, 2 M solution in methanol	7664-41-7	100 mL, 800 mL
42838	Ammonia, ca. 7 N solution in methanol	7664-41-7	100 mL, 800 mL
38844	Ammonia, 0.5M solution in THF	7664-41-7	100 mL
43452	Antimony(V)-chloride, 1 M solution in methylene chloride	7647-18-9	100 mL, 800 mL
42890	Benzyl chloroformate, 3 M (50 wt.%) solution in toluene	501-53-1	100 mL
42898	[Bis(2-methoxyethyl)amino]sulfur trifluoride, 2.7 M (50 wt.%) solution in toluene	202289-38-1	100 mL
16581	9-Borabicyclo[3.3.1]nonane, 0.5 M solution in THF	280-64-8	100 mL, 800 mL
22478	9-Borabicyclo[3.3.1]nonyl trifluoromethanesulfonate, 0.5 M solution in hexanes	62731-43-5	100 mL
17706	Borane-methyl sulfide complex, 94%	13292-87-0	100 mL, 800 mL
18561	Borane-methyl sulfide complex, 1 M solution in methylene chloride	13292-87-0	100 mL
18507	Borane-methyl sulfide complex, 2 M solution in THF	13292-87-0	100 mL, 800 mL
18696	Borane-methyl sulfide complex, 2 M solution in toluene	13292-87-0	100 mL, 800 mL
42713	Borane-pyridine complex, 95%, (ca. 9.4M)	110-51-0	100 mL
17508	Borane-tetrahydrofuran complex, 1 M solution in THF, stabilized	14044-65-6	100 mL, 800 mL
42832	Boron tribromide dimethyl sulfide, 1 M solution in methylene chloride	29957-59-3	100 mL, 800 mL
17668	Boron trichloride, 1 M solution in methylene chloride	10294-34-5	100 mL, 800 mL
19892	Boron trichloride, 1 M solution in hexane	10294-34-5	100 mL, 800 mL
44527	Boron trifluoride, 12% (1.5 M) in methanol	373-57-9	100 mL, 800 mL
42814	Boron trifluoride dibutyl etherate, 30-35%, (BF <sub>3</sub> )	593-04-4	100 mL
42711	Boron trifluoride etherate, ca. 48% BF <sub>3</sub>	109-63-7	100 mL, 800 mL
36910	tert-Butylchlorodimethylsilane, 1.0 M solution in dichloromethane	18162-48-6	100 mL
43311	tert-Butyldimethylsilyl chloride, 50 wt.% solution in toluene	18162-48-6	100 mL
20954	Catecholborane, 1 M solution in tetrahydrofuran	274-07-7	100 mL, 800 mL
42899	2-(4-Chlorosulfonylphenyl)ethyltrimethoxysilane, 50% solution in dichloromethane	126519-89-9	100 mL
42900	Dess-Martin periodinane, 15 wt.% solution in dichloromethane	87413-09-0	100 mL
42680	Di-tert-butyl dicarbonate, 1 M solution in THF	24424-99-5	100 mL, 800 mL
42902	N,N'-Dicyclohexylcarbodiimide, 1 M solution in dichloromethane	538-75-0	100 mL
20103	Diisobutylaluminium hydride, 1.1 M solution in cyclohexane	1191-15-7	100 mL, 800 mL
20105	Diisobutylaluminium hydride, 1.0 M solution in heptane	1191-15-7	100 mL, 800 mL
20108	Diisobutylaluminium hydride, 1.2 M (20 wt%) solution in toluene	1191-15-7	100 mL, 400 mL, 800 mL
38842	(+)-Diisopinocampheylchloroborane, 1.8 M solution in hexanes	112246-73-8	100 mL, 800 mL
42904	Diisopropylphosphine, 10 wt.% solution in hexanes	20491-53-6	100 mL
43454	Dilithium tetrabromonickelate(II), 0.5 M solution in THF	13826-95-4	100 mL, 800 mL
42905	Dilithium tetrachlorocuprate, 0.1 M solution in THF	15489-27-7	100 mL
37026	Dimethylamine, 2 M solution in methyl alcohol	124-40-3	100 mL
38838	Dimethylamine, 2 M solution in THF	124-40-3	100 mL, 800 mL

Stock No.	Description	CAS No.	Package Size
43872	2,3-Dimethyl-2-butene, 1 M solution in THF	563-79-1	100 mL
37025	Ethylamine, 2 M solution in THF	75-04-7	100 mL, 800 mL
42906	Ethyl ethynyl ether, 40 wt.% solution in hexanes	927-80-0	100 mL
43069	Hydrogen bromide, pure, 33 wt.% solution in glacial acid	37348-16-6	100 mL, 800 mL
37027	Hydrogen chloride, 1 M solution in acetic acid	7647-01-0	100 mL
36846	Hydrogen chloride, pure, 1 N solution in diethyl ether	7647-01-0	100 mL, 800 mL
36847	Hydrogen chloride, pure, 2 N solution in diethyl ether	7647-01-0	100 mL, 800 mL
38836	Hydrogen chloride, 4 N solution in 1,4-dioxane	7647-01-0	100 mL, 800 mL
42701	Hydrogen chloride, 1.25 M solution in ethanol	7647-01-0	100 mL, 800 mL
42892	Hydrogen chloride, 1 M solution in ethyl acetate	7647-01-0	100 mL
42893	Hydrogen chloride, ca. 0.5 M solution in methanol	7647-01-0	100 mL
42860	Hydrogen chloride, 5 to 6 N solution in 2-propanol	7647-01-0	100 mL, 800 mL
44585	Iodine monobromide, 1 M solution in methylene chloride	7789-33-5	100 mL
42894	Iodine monochloride, 1 M solution in dichloromethane	7790-99-0	100 mL
37841	Iodomethane, 2 M solution in tert-butyl methyl ether	74-88-4	100 mL, 800 mL
43988	Lithium acetylde ethylenediamine complex, 25 wt.% slurry in toluene	6867-30-7	100 mL
19951	Lithium aluminium hydride, 4.0 M solution in diethyl ether	16853-85-3	100 mL, 800 mL
19949	Lithium aluminium hydride, 1 M solution in THF	16853-85-3	100 mL, 800 mL
37732	Lithium aluminium hydride, 2.4 M solution in THF	16853-85-3	100 mL, 800 mL
43455	Lithium aluminium hydride bis(tetrahydrofuran), 1 M solution in toluene	123439-81-6	100 mL, 800 mL
20955	Lithium bis(trimethylsilyl)amide, 1 M solution in THF	4039-32-1	100 mL, 800 mL
34567	Lithium bis(trimethylsilyl)amide, 1.0 M sol. in methyl tert-butyl ether	4039-32-1	100 mL, 800 mL
34770	Lithium bis(trimethylsilyl)amide, 1 M solution in THF/Ethylbenzene	4039-32-1	100 mL, 800 mL
42888	Lithium borohydride, 4 M (10 wt.%) solution in THF	16949-15-8	100 mL, 800 mL
39097	Lithium bromide, 4 M solution in THF	7550-35-8	100 mL, 800 mL
44684	Lithium tert-butoxide, 0.9 M (8 wt.%) solution in 2-MeTHF	1907-33-1	100 mL, 800 mL
37931	Lithium tert-butoxide, 2.2M solution in THF	1907-33-1	100 mL, 800 mL
26883	Lithium diisopropylamide, 2 M sol. in THF/n-heptane/ethylbenzene	4111-54-0	100 mL, 800 mL
43362	Lithium diphenylphosphide, 0.5 M solution in THF	65567-06-8	100 mL
38017	Lithium ethoxide, 1 M solution in ethanol	2388-07-0	100 mL, 800 mL
38020	Lithium isopropoxide, 1 M solution in hexanes	2388-10-5	100 mL
39650	Lithium isopropoxide, 3 M solution in THF	2388-10-5	100 mL, 800 mL
38861	Lithium phenoxide, 0.6 M solution in THF	555-24-8	100 mL
43350	Lithium thiophenolate, 0.6 M solution in THF	2973-86-6	100 mL
37758	Lithium tri-tert-butoxyaluminumhydride, 1.1 M solution in THF	17476-04-9	100 mL, 800 mL
17645	Lithium tri-sec-butylborohydride, 1 M solution in THF	38721-52-7	100 mL, 800 mL
45069	Lithium triethylborohydride, 1.7 M solution in THF	22560-16-3	100 mL, 800 mL
43911	Lithium tris[(3-ethyl-3-pentyl)oxy]aluminumhydride, 0.5 M solution in THF	79172-99-9	100 mL, 800 mL
39673	Methylamine, 33 wt.% solution in absolute ethanol	74-89-5	100 mL, 800 mL
36855	Methylamine, pure, 2 M solution in methanol	74-89-5	100 mL, 800 mL
36849	Methylamine, pure, 2 M solution in THF	74-89-5	100 mL, 800 mL
42639	2-Methyl-2-butene, 2 M solution in THF	513-35-9	100 mL
43604	(R)-(+)-2-Methyl-CBS-oxazaborolidine, 1 M solution in toluene	112022-83-0	50 mL
43603	(S)-(-)-2-Methyl-CBS-oxazaborolidine, 1 M solution in toluene	112022-81-8	50 mL
42837	Methyltitanium(IV) triisopropoxide, 1 M solution in THF	18006-13-8	100 mL
42907	Nitronium tetrafluoroborate, 0.5 M solution in sulfolane	13826-86-3	100 mL
42908	Osmium tetroxide, 2.5 wt.% sol. in tert-Butanol, stab	20816-12-0	100 mL

Stock No.	Description	CAS No.	Package Size
36918	Oxalyl chloride, 2.0 M solution in dichloromethane	79-37-8	100 mL, 800 mL
38206	Phosphorus tribromide, 1.0 M solution in dichloromethane	7789-60-8	100 mL, 800 mL
41823	Potassium bis(trimethylsilyl)amide, 0.7 M (15 wt.%) solution in toluene	40949-94-8	100 mL, 800 mL
42879	Potassium tert-butoxide, pure, 1.6-1.7 M (20 wt.%) solution in THF	865-47-4	100 mL, 800 mL
37122	Potassium tert-butoxide, pure, 1 M solution in THF	865-47-4	100 mL, 1 L, 2.5 L
42612	Potassium tert-butoxide, 1 M solution in tert-butanol	865-47-4	100 mL, 800 mL
44583	Potassium tert-butoxide, 2 M (25% w/w) solution in 2-MeTHF	865-47-4	100 mL, 800 mL
42909	Potassium hydroxide, 1 N solution in ethanol	1310-58-3	100 mL
42910	Potassium methoxide, pure, 0.1 N solution in toluene/methanol	865-33-8	100 mL
16472	Potassium tert-pentoxide, 0.9 M (14 wt.%) solution in cyclohexane	41233-93-6	100 mL, 800 mL
20547	Potassium tri-sec-butylborohydride, 1 M solution in tetrahydrofuran	54575-49-4	100 mL, 800 mL
44846	Potassium trimethylsilanolate, 2 M solution in THF	10519-96-7	100 mL, 800 mL
42911	1-Propanephosphonic acid cyclic anhydride, 50 wt.% solution in dimethylformamide	68957-94-8	100 mL
42931	1-Propanephosphonic acid cyclic anhydride, 50 wt.% solution in ethyl acetate	68957-94-8	100 mL
42912	Propargyl bromide, 80 wt.% solution in toluene, stabilized	106-96-7	100 mL, 1 L
29499	Samarium(II) iodide, 0.1 M solution in THF, stabilized with Samarium powder	32248-43-4	100 mL
43355	Sodium benzyloxide, 1 M solution in benzyl alcohol	20194-18-7	100 mL
43091	Sodium bis(2-methoxyethoxy)aluminium hydride, 70 wt.% solution in toluene (ca. 3.5 M)	22722-98-1	100 mL, 800 mL
27785	Sodium bis(trimethylsilyl)amide, pure, 2 M solution in THF	1070-89-9	100 mL, 800 mL
19113	Sodium borohydride, 0.5 M solution in diglyme	16940-66-2	100 mL
42913	Sodium borohydride, 12% solution in 40% aq. NaOH solution	16940-66-2	100 mL
37245	Sodium cyanoborohydride, 1 M solution in THF	25895-60-7	100 mL, 800 mL
42930	Sodium ethoxide, 21% in ethanol	141-52-6	100 mL, 800 mL
42836	Sodium methoxide, 5.4 M (30 wt.%) solution in methanol	124-41-4	100 mL, 800 mL
42722	Sodium methoxide, 0.5 M solution in methanol	124-41-4	100 mL, 800 mL
44588	Sodium methoxide, ACS reagent, 0.5 M solution in methanol	124-41-4	100 mL, 800 mL
25253	Sodium tert-pentoxide, 30% in 2-MeTHF	14593-46-5	100 mL, 800 mL
39015	Sodium tert-pentoxide, 2.5 M (30 wt%) solution in THF	14593-46-5	100 mL, 800 mL
20003	Sodium triethylborohydride, 1 M solution in THF	17979-81-6	100 mL, 800 mL
42884	Sodium trimethylsilanolate, 1 M solution in dichloromethane	18027-10-6	100 mL, 800 mL
42883	Sodium trimethylsilanolate, 1 M solution in THF	18027-10-6	100 mL, 800 mL
37815	Sulfuryl chloride, 1.0 M solution in dichloromethane	7791-25-5	100 mL, 800 mL
43351	Tetrabutylammonium fluoride, 1 M solution in THF	429-41-4	100 mL, 800 mL
42895	Tetrabutylammonium hydroxide, 1 M solution in methanol	2052-49-5	100 mL, 800 mL
43599	Tetrabutylammonium phosphate monobasic, 0.4 M solution in acetonitrile	5574-97-0	100 mL
44006	Tetrabutylammonium phosphate monobasic, 1 M solution in ethanol	5574-97-0	100 mL
43299	Tetrazole, 3 to 4 wt.% solution in acetonitrile	288-94-8	100 mL, 1 L
37820	Tin(IV) chloride, 1 M solution in dichloromethane	7646-78-8	100 mL, 800 mL
42915	Titanium(III) chloride, 20%w/w solution in 2 N hydrochloric acid	7705-07-9	100 mL
37774	Titanium(IV) chloride, 1 M solution in dichloromethane	7550-45-0	100 mL, 800 mL
42835	Titanium(IV) chloride, 0.09 M solution in 20% HCl	7550-45-0	100 mL
37816	Titanium(IV) chloride, 1 M solution in toluene	7550-45-0	100 mL, 800 mL
42842	Tricyclohexylphosphine, 1 M solution in toluene	2622-14-2	100 mL

Stock No.	Description	CAS No.	Package Size
17698	Triethylborane, 1 M solution in THF	97-94-9	100 mL, 800 mL
42916	Triethyloxonium tetrafluoroborate, 1 M solution in methylene chloride	368-39-8	100 mL
42917	(Trifluoromethyl)trimethylsilane, 0.5 M solution in THF	81290-20-2	100 mL
38837	Trimethylamine, 1 M solution in THF	75-50-3	100 mL, 800 mL
42919	Trimethylboroxine, 3.5 M (50 wt.%) solution in THF	823-96-1	100 mL
42920	(Trimethylsilyl)diazomethane, approx. 2 M solution in diethyl ether	18107-18-1	100 mL
42921	(Trimethylsilyl)diazomethane, technical, approx. 2.0 M solution in hexanes	18107-18-1	100 mL
43366	Vanadium(III) chloride-tetrahydrofuran complex (1:3), 0.5 M solution in methylene chloride	19559-06-9	100 mL, 800 mL
42877	Vinyl bromide, 1 M solution in THF	593-60-2	100 mL, 800 mL
42856	Zinc chloride, 2 M solution in 2-MeTHF	7646-85-7	100 mL, 800 mL
38945	Zinc chloride, 0.7 M solution in THF	7646-85-7	100 mL, 800 mL
37005	Zinc chloride, 1.0 M solution in diethyl ether	7646-85-7	100 mL, 800 mL
42793	Zirconium(IV) propoxide, ca. 70%, solution in 1-Propanol	23519-77-9	100 mL, 800 mL

## Metal Catalyst

Transition metals are an exceptional choice for catalysts in modern organic, organometallic and electro chemistries. They have the capacity to be in a variety of oxidation states, interchange between states, form complexes with organic ligands and are a good source of electrons.

### Precious Metal Catalyst

Catalytic processes in organic synthesis require “late transition metals” such as palladium, platinum, gold, ruthenium, rhodium or iridium. Cross-coupling reactions, which have been widely used of several organic transformations, will be difficult to perform by a classical pathway without using metal catalysts such as palladium, platinum copper, nickel, ruthenium and rhodium. Due to their high selectivity, precious metal chemicals are often the first choice as heterogeneous catalysts for a wide variety of research and industrial chemical applications.

### Precious Metal Catalyst

#### Organic Synthesis

Pure metals and metal compounds offer unique opportunities for an organic chemist due to their versatile properties and pronounced catalytic activities. Metal catalysts are extensively used in organic synthesis. Both homogeneous and heterogeneous catalysts are used in organic research laboratory. Homogeneous catalysts are excellent choice where highly specific reactions are desired including chiral transformations. Pt catalyzed hydrogenation of an unsaturated organic compound is an example for heterogeneous catalysts.

#### Bioactive Synthesis

Transition metal mediated cross-coupling reactions received great attention in recent years towards the synthesis of various biologically active molecules, natural products, nucleosides, nucleotides and oligonucleotides. Palladium-catalyzed coupling reactions have been implicated in constructing carbon-carbon and carbon-hetero atom bonds. Such metal catalyzed reactions offer synthetic versatility and efficiency to wide range of bioactive.

#### Pharma Industry

Increasing focus has been on the environmental impact of manufacturing processes in pharmaceutical industry where there is a large amount of drug products manufactured globally. Various metal catalysts have been extensively used in pharma industry to enhance the sustainability of pharmaceutical products, leading to the shorter and very efficient synthetic routes. By facilitating selectivity, high yield, economic and environmental friendly processes, metal catalysts offer great profitable options for drug manufacturers.

Product Code	Chemical Name	CAS no.	Pack Size
ALF-010491-03	trans-Dichlorobis(triphenylphosphine)palladium(II), Pd 14.0% min	13965-03-2	1g
ALF-010491-06	trans-Dichlorobis(triphenylphosphine)palladium(II), Pd 14.0% min	13965-03-2	5g
ALF-010491-14	trans-Dichlorobis(triphenylphosphine)palladium(II), Pd 14.0% min	13965-03-2	25g
ALF-010516-03	Palladium(II) acetate, trimer, Pd 45.9-48.4%	3375-31-3	1g
ALF-010516-04	Palladium(II) acetate, trimer, Pd 45.9-48.4%	3375-31-3	2g
ALF-010516-06	Palladium(II) acetate, trimer, Pd 45.9-48.4%	3375-31-3	5g
ALF-010516-09	Palladium(II) acetate, trimer, Pd 45.9-48.4%	3375-31-3	10g
ALF-010516-14	Palladium(II) acetate, trimer, Pd 45.9-48.4%	3375-31-3	25g
ALF-010548-04	Tetrakis(triphenylphosphine)palladium(0), 99.8% (metals basis), Pd 9% min	14221-01-3	2g
ALF-010548-06	Tetrakis(triphenylphosphine)palladium(0), 99.8% (metals basis), Pd 9% min	14221-01-3	5g
ALF-010548-09	Tetrakis(triphenylphosphine)palladium(0), 99.8% (metals basis), Pd 9% min	14221-01-3	10g
ALF-010548-14	Tetrakis(triphenylphosphine)palladium(0), 99.8% (metals basis), Pd 9% min	14221-01-3	25g
ALF-012760-03	Tris(dibenzylideneacetone)dipalladium(0), Pd 21.5% min	51364-51-3	1g
ALF-012760-06	Tris(dibenzylideneacetone)dipalladium(0), Pd 21.5% min	51364-51-3	5g
ALF-012760-09	Tris(dibenzylideneacetone)dipalladium(0), Pd 21.5% min	51364-51-3	10g
ALF-012760-14	Tris(dibenzylideneacetone)dipalladium(0), Pd 21.5% min	51364-51-3	25g
ALF-041225-03	Dichloro[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), complex with dichloromethane (1:1), Pd 13%	95464-05-4	1g
ALF-041225-06	Dichloro[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), complex with dichloromethane (1:1), Pd 13%	95464-05-4	5g
ALF-041225-14	Dichloro[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), complex with dichloromethane (1:1), Pd 13%	95464-05-4	25g
ALF-041225-18	Dichloro[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), complex with dichloromethane (1:1), Pd 13%	95464-05-4	50g
ALF-046503-03	Dichloro[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), Pd 13.0-14.5%	72287-26-4	1g
ALF-046503-06	Dichloro[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), Pd 13.0-14.5%	72287-26-4	5g
ALF-046503-14	Dichloro[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), Pd 13.0-14.5%	72287-26-4	25g
ALF-045445-06	Platinum, 5% on activated carbon (~50% moisture), reduced Type 5T128Meduced, nominally 50% water wet	7440-06-4	5g
ALF-038306-06	Palladium, 20% on activated carbon powder, eggshell, reduced, nominally 50% water wet	20T91	5g
ALF-045924-06	Palladium, 10% on activated carbon powder, Type 87L, standard, reduced, nominally 50% water wet	7440-05-3	5g
ALF-045924-14	Palladium, 10% on activated carbon powder, Type 87L, standard, reduced, nominally 50% water wet	7440-05-3	25g
ALF-045924-18	Palladium, 10% on activated carbon powder, Type 87L, standard, reduced, nominally 50% water wet	7440-05-3	50g
ALF-A12012-06	Palladium, 10% on carbon, Type 487, dry	2023568	5g
ALF-A12012-09	Palladium, 10% on carbon, Type 487, dry	2023568	10g
ALF-A12012-18	Palladium, 10% on carbon, Type 487, dry	2023568	50g
ALF-A12012-04	Palladium, 10% on carbon, Type 487, dry	2023568	2g
ALF-045511-03	Dichlorobis[di-tert-butyl(4-dimethylaminophenyl)phosphino]palladium(II)	887919-35-9	1g

# Oxidizing agents

Gain confidence in us to help you lose those electrons

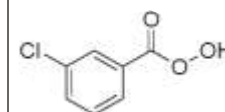
A crucial application and step in many synthetic routes, our wide range of chemicals from Thermo Scientific brings about an unmatched portfolio of oxidizing agents to support various oxidation reactions.

Refer to the product tables below to find out more about our oxidizing agents in detail by clicking on their catalog numbers.

## m-CPBA

Uses: Prilizhaev epoxidation, synthesis of sulfones, nitro compounds, esters and carbonyl groups

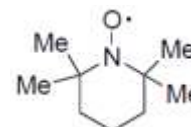
Cat. No.	Product name	Pack size
L00286.36	3-Chloroperoxybenzoic acid, 50-55%, cont. ca 10% 3-chlorobenzoic acid, balance water, Thermo Scientific Chemicals	25 g, 100 g, 500 g
25579	3-Chloroperoxybenzoic acid, 70-75%, balance 3-Chlorobenzoic acid and water, Thermo Scientific Chemicals	25 g, 100 g



## TEMPO

Uses: Oxidation of alcohols to carbonyls via a freeradical reaction

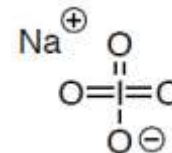
Cat. No.	Product name	Pack size
A12733	TEMPO, free radical, 98+%, Thermo Scientific Chemicals	1 g, 5 g, 25 g
20038	2,2,6,6-Tetramethylpiperidinoxy, 98%, Thermo Scientific Chemicals	5 g, 25 g



## Sodium Periodate (NaIO<sub>4</sub>)

Uses: Oxidation of cellulose and synthesis of sulfoxides

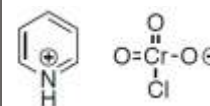
Cat. No.	Product name	Pack size
41961	Sodium periodate, 99.8+%, ACS reagent, Thermo Scientific Chemicals	5 g, 100 g, 500 g
013798	Sodium metaperiodate, 98%, Thermo Scientific Chemicals	10 g, 100 g, 500 g, 2 kg



## Pyridinium Chlorochromate (PCC)

Uses: Formation of aldehydes and ketones from primary and secondary alcohols respectively.

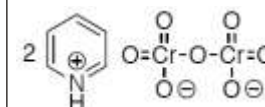
Cat. No.	Product name	Pack size
A11752	Pyridinium chlorochromate, 98%, Thermo Scientific Chemicals	100 g, 500 g
18367	Pyridinium chlorochromate, 98%, Thermo Scientific Chemicals	25 g, 100 g, 500 g



## Pyridinium Dichromate (PDC)

Uses: Formation of aldehydes and ketones from primary and secondary alcohols respectively.

Cat. No.	Product name	Pack size
20088	Pyridinium dichromate, 98%, Thermo Scientific Chemicals	50 g, 250 g, 1 kg
L15132	Pyridinium dichromate, 98%, Thermo Scientific Chemicals	25 g



### Swern Oxidation

Uses: Using less poisonous reactants to form aldehydes and ketones from primary and secondary alcohols respectively.

Cat. No.	Product name	Pack size
036480	Dimethyl sulfoxide, ACS, 99.9% min, Thermo Scientific Chemicals	1 L, 4 L
A18012	Oxalyl chloride, 98%, Thermo Scientific Chemicals	50 g, 100 g, 250 g, 1000 g
A12646	Triethylamine, 99%, Thermo Scientific Chemicals	250 mL, 500 mL, 2500 mL
022917	Dichloromethane, HPLC Grade, 99.7+%, stab. with amylene, Thermo Scientific Chemicals	250 mL, 1 L, 4 L

### Jones Oxidation

Strong oxidizing agent; Used in forming ketones from secondary alcohols or carboxylic acids from primary alcohols and allylic hydrogens.

Cat. No.	Product name	Pack size
012522	Chromium(VI) oxide, 99%, Thermo Scientific Chemicals	250 g, 1 kg
L14890	Sodium dichromate dihydrate, 98%, Thermo Scientific Chemicals	100 g, 500 g
42411	Potassium dichromate, 99+%, ACS reagent, Thermo Scientific Chemicals	50 g, 500 g, 2.5 kg

## Cross-Coupling Reactions

Supporting your reactions with high-purity building blocks and a wide range of ligands, additives, metals and more

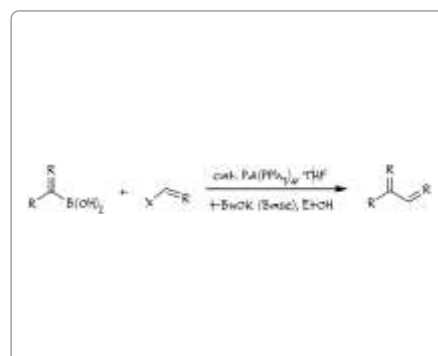
Cross-coupling reactions are an important application in organic and pharmaceutical chemistry. Typically used in forming C-C, C=C, or C-N bonds, these reactions open up new intermediates that eventually allows scientists to build their molecules into a desired product.

At Thermo Fisher Scientific, helping our chemists and scientists discover new drug molecules through organometallic chemistry is one of the many ways we help our world become healthier, cleaner and safer.



### Suzuki-Miyaura Coupling

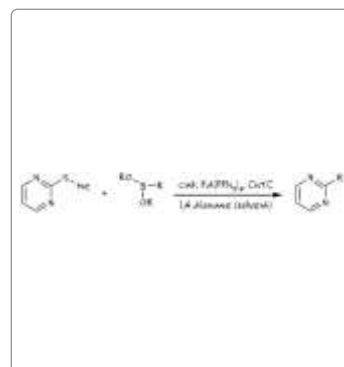
Cat. No.	Product name	Pack size
20238	Tetrakis(triphenylphosphine)palladium(0), 99%, Thermo Scientific Chemicals	25 g, 100 g
36499	Potassium tert-butoxide, pure, 20 wt.% solution in THF, Thermo Scientific Chemicals	50 mL, 250 mL
18159	Tetrahydrofuran, 99.9%, extra pure, anhydrous, stabilized with BHT, Thermo Scientific Chemicals	250 mL, 1 L, 2.5 L
14042	Triphenylphosphine, 99%, Thermo Scientific Chemicals	25 g, 250 g, 1 kg





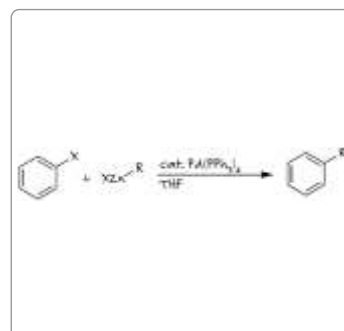
## Libeskind-Srogl Coupling

Cat. No.	Product name	Pack size
20238	Tetrakis(triphenylphosphine)palladium(0), 99%, Thermo Scientific Chemicals	25 g, 100 g
H64950	Copper(I) thiophene-2-carboxylate, Thermo Scientific Chemicals	5 g
18159	Tetrahydrofuran, 99.9%, extra pure, anhydrous, stabilized with BHT, Thermo Scientific Chemicals	250 mL, 1 L, 2.5 L
A11535	Molecular sieves, 4A, powder, Thermo Scientific Chemicals	250 g, 1000 g,
11711	1,4-Dioxane, 99+%, extra pure, stabilized, Thermo Scientific Chemicals	5000 g, 1 L, 2.5 L



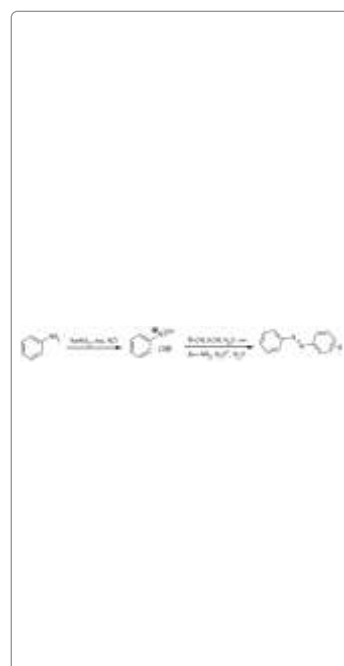
## Negishiil Coupling

Cat. No.	Product name	Pack size
20238	Tetrakis(triphenylphosphine)palladium(0), 99%, Thermo Scientific Chemicals	25 g, 100 g
18159	Tetrahydrofuran, 99.9%, extra pure, anhydrous, stabilized with BHT, Thermo Scientific Chemicals	250 mL, 1 L, 2.5 L
014112	Triphenylphosphine, 99+%, Thermo Scientific Chemicals	25 g, 100 g, 500 g
43282	Cyclopropylzinc bromide, 0.5M solution in THF, AcroSeal™, Thermo Scientific Chemicals	50 mL



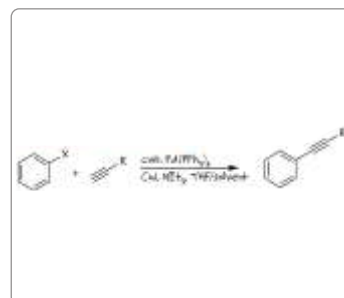
## Azol Coupling

Cat. No.	Product name	Pack size
242435	Sodium Nitrite, +97%, For analysis, Thermo Scientific Chemicals	5 g, 500 g, 2 kg
42379	Hydrochloric acid, ACS reagent, ca. 37% solution in water, Thermo Scientific Chemicals	500 mL, 2.5 L, 25 L
42408	Potassium carbonate, 99+%, ACS reagent, anhydrous, Thermo Scientific Chemicals	100 g, 500 g
42414	Potassium hydroxide, ca. 85%, ACS reagent, Thermo Scientific Chemicals	25 g, 500 kg, 2.5 kg, 5 kg
17684	Methanol, 99.9%, for analysis, Thermo Scientific Chemicals	500 mL, 2.5 L, 10 L, 25 L
044526	Phenol, 99.5%, unstab., Thermo Scientific Chemicals	100 g
036289	Acetic acid, glacial, ACS, 99.7+%, Thermo Scientific Chemicals	100 mL, 500 mL
42452	Sulfuric acid, for analysis ACS, 95% solution in water, Thermo Scientific Chemicals	500 mL, 2.5 L
42324	Acetone, 99.6%, ACS reagent, Thermo Scientific Chemicals	500 mL, 1 L, 2.5 L, 25 L



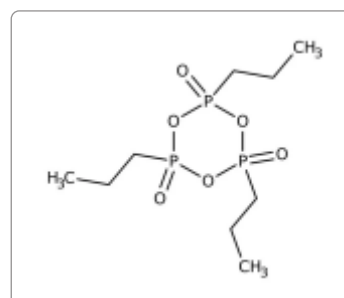
## Sonogashira coupling

Cat. No.	Product name	Pack size
220238	Tetrakis(triphenylphosphine)palladium(0), 99%, Thermo Scientific Chemicals	25 g, 100 g
18159	Tetrahydrofuran, 99.9%, extra pure, anhydrous, stabilized with BHT, Thermo Scientific Chemicals	250 mL, 1 L, 2.5 L
19490	Copper(I) iodide, 98%, Thermo Scientific Chemicals	250 g, 1 kg
15791	Trimethylamine, 99%, pure, Thermo Scientific Chemicals	5 mL, 100 mL, 10 L



## Coupling reagent

Cat. No.	Product name	Pack size
ALF-A10973-14	N,N'-Dicyclohexylcarbodiimide, 99%	25g, 100g, 500g
ALF-B23597-14	O-(1H-Benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium hexafluorophosphate, 98%	5g, 25g, 100g
ALF-H26082-14	O-(7-Aza-1H-benzotriazol-1-yl)-N,N,N',N'-tetramethyluronium afluorophosphate, 99%	1g, 5g, 25g
ALF- L11911-A1	1-Propylphosphonic acid cyclic anhydride, 50+% soln. in ethyl acetate	50g, 500g, 1kg
429111000	1-Propylphosphonic acid cyclic anhydride, 50+% soln. in Dimethyl Foramide	100ml, 800ml



## Reducing agents and reactions

Serving your laboratory needs with our wide portfolio of chemicals

A commonly used and important step in many synthetic routes, our reducing agents and chemicals from Thermo Scientific brings about the performance you need to achieve this necessary reaction in your synthetic workflow with confidence.

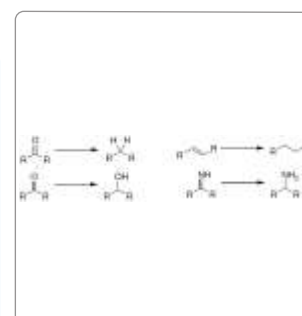
Refer to the product tables below to find out more about our reducing agents in detail by clicking on their catalog numbers.



### Sodium Borohydride (NaBH<sub>4</sub>)

Uses: As a reducing agent for organic, inorganic and organometallic compounds, as a bleaching agent, in the recycling of gold and platinum metals, in organic synthesis, nonaqueous reducing agent for aldehydes, ketones and schiff bases.

Cat. No.	Product name	Pack size
035788	Sodium borohydride, 97+%, Thermo Scientific Chemicals	100 g, 500 g
42913	Sodium borohydride, 12% solution in 40% aq. NaOH solution, AcroSeal, Thermo Scientific Chemicals	100 mL
18930	Sodium borohydride, 98+%, power Thermo Scientific Chemicals	5 g, 10 g, 100 g, 500 g, 2.5 kg



## Lithium Aluminum Hydride (LiAlH<sub>4</sub>)

Uses: Lithium aluminum hydride is used as a reducing agent used in the conversion of esters, carboxylic acids, acyl chlorides, aldehydes and ketones into their corresponding alcohols. It also involved in the conversion of amide, nitro, nitrile, imine, oxime and azide compounds into their amines as well as reduces alkyl halides to alkanes.

Cat. No.	Product name	Pack size
0089643	Lithium aluminum hydride, pellets, 97%, Thermo Scientific Chemicals	25 g, 100 g, 500 g
19951	Lithium aluminum hydride, 4.0M solution in diethyl ether, AcroSeal, Thermo Scientific Chemicals	100 mL, 800 mL
19949	Lithium aluminum hydride, 1M solution in THF, AcroSeal, Thermo Scientific Chemicals	100 mL, 800 mL

## Sodium Cyanoborohydride (Na(CN)BH<sub>3</sub>)

Uses: Selective reduction for aldehydes, ketones, oximes, enamines. Reductive animation of ketones, aldehydes. Reductive alkylation of amines, hydrazines. It is also used in reductive amination of aldehydes, ketones, oximes and enamines.

Cat. No.	Product name	Pack size
087839	Sodium cyanoborohydride, 95%, Thermo Scientific Chemicals	5 g, 25 g, 100 g
16855	Sodium cyanoborohydride, 95%, Thermo Scientific Chemicals	50 g, 250 g
37245	Sodium cyanoborohydride, 1M solution in THF, AcroSeal, Thermo Scientific Chemicals	100 mL, 800 mL

## Hydrogenation Reactions

Various metal catalysts used in the hydrogenation process of alkynes and alkenes to saturated hydrocarbons. When palladium metal is poisoned with lead, it becomes a selective reducing agent known as Lindlar's catalyst that selectively reduces alkynes to Z-alkenes.

Cat. No.	Product name	Pack size
043172	Palladium, 5% on calcium carbonate, Type A306060-5, lead poisoned, Thermo Scientific Chemicals	25 g, 100 g
A12623	Palladium, 5% on carbon, Type 87L, dry, Thermo Scientific Chemicals	10 g, 50 g
A11186	Platinum, 5% on carbon, dry, Thermo Scientific Chemicals	1 g, 5 g, 25 g

## Diisobutylaluminum Hydride (DIBAL-H)

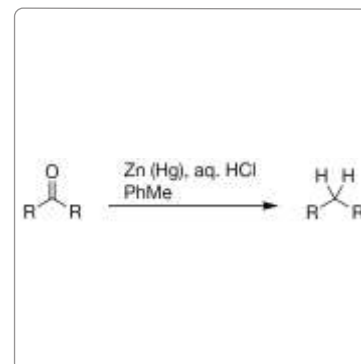
Uses: Selectively reduces esters into aldehydes. While reports have shown low yields, it is still a viable route to achieving an aldehyde in a single step reaction.

Cat. No.	Product name	Pack size
018379	Diisobutylaluminum hydride, 1M solution in hexane, AcroSeal, Thermo Scientific Chemicals	100 mL, 400 mL, 800 mL
20108	Diisobutylaluminum hydride, 1.2M (20 wt%) solution in toluene, AcroSeal, Thermo Scientific Chemicals	100 mL, 400 mL, 800 mL
H37108	Diisobutylaluminum hydride, 1.1M in cyclohexane, packaged under Nitrogen in resealable AcroSeal bottles, Thermo Scientific Chemicals	100 mL, 800 mL

## Clemmensen Reduction

Reduction of carbonyls to methylene groups.

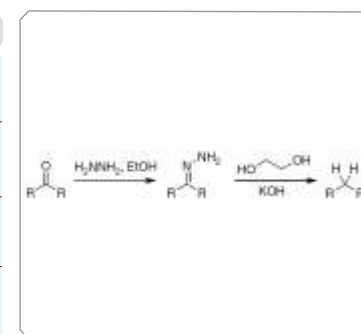
Cat. No.	Product name	Pack size
042393	Mercury(II) chloride, 99.5+%, ACS reagent, Thermo Scientific Chemicals	100 g, 500 g, 2.5 kg
20145	Zinc, +99%, mossy, Thermo Scientific Chemicals	500 g, 1 kg, 5 kg
42455	Toluene, 99.5%, ACS reagent, Thermo Scientific Chemicals	500 mL, 1 L, 2.5 L
035607	Hydrochloric acid, 50% v/v aq. soln., Thermo Scientific Chemicals	1 L, 4 L
14949	Acetic Anhydride 99+%, Thermo Scientific Chemicals	1 L, 2.5 L



## Wolff-Kishner Reduction

Reduction of carbonyls to methylene groups.

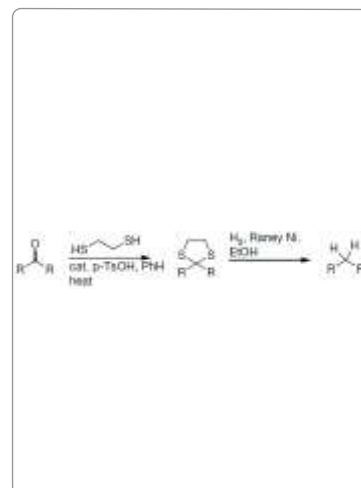
Cat. No.	Product name	Pack size
20959	Hydrazine hydrate, 80% (Hydrazine, 51%), Thermo Scientific Chemicals	250 g, 1 kg
42414	Potassium hydroxide, ca. 85%, ACS reagent, Thermo Scientific Chemicals	25 g, 500 g, 2.5 kg, 5 kg
14675	Ethylene glycol, 99+%, extra pure, Thermo Scientific Chemicals	1 L, 2.5 L
61509	Ethanol, 99.5%, ACS reagent, absolute, 200 proof, Thermo Scientific Chemicals	500 mL, 1 L, 2 L, 4L



## Mozingo Reduction

Reduction of carbonyls to methylene groups.

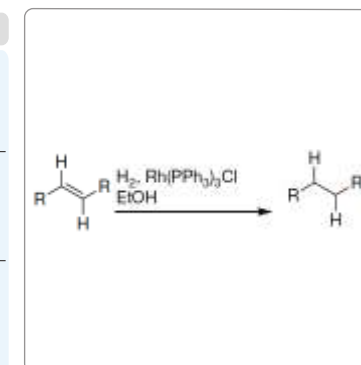
Cat. No.	Product name	Pack size
L12865	1,2-Ethanedithiol, 98+%, Thermo Scientific Chemicals	25 g, 100 g, 500 g
42121	p-Toluenesulfonic acid monohydrate, ACS reagent, Thermo Scientific Chemicals	25 g, 500 g
36441	Toluene, 99.85%, Extra Dry over Molecular Sieve, AcroSeal, Thermo Scientific	100 mL, 500 mL, 2.5 L
61509	Ethanol, 99.5%, ACS reagent, absolute, 200 proof, Thermo Scientific Chemicals	500 mL, 1 L, 2 L, 4L
39592	Raney™-Nickel, Activated Catalyst, 50% slurry in water, Thermo Scientific Chemicals	100 g, 500 g



## Hydrogenation by Wilkinson's Catalyst

Using a rhodium-based complex catalyst, Wilkinson's catalyst allows the reduction of alkenes to alkanes. This reaction is especially useful in selective reduction, when tri- and quaternary substituted alkenes are not intended to be reduced. Complement your reaction with our extra-dry ethanol in AcroSeal packaging to ensure your reaction goes to completion without being consumed by moisture.

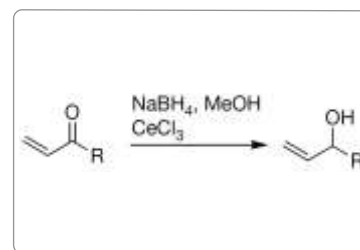
Cat. No.	Product name	Pack size
010468	Chlorotris(triphenylphosphine) rhodium(I), 97%, Thermo Scientific Chemicals	1 g, 5 g
19042	Tris(triphenylphosphine) rhodium(I) chloride, 98%, Thermo Scientific Chemicals	1 g, 5 g
39769	Ethanol, 99.5%, Extra Dry, absolute, AcroSeal, Thermo Scientific Chemicals	1 L, 2.5 L



## Luche Reduction

Selective reduction of  $\alpha,\beta$ -unsaturated carbonyls to allylic alcohols.

Cat. No.	Product name	Pack size
013432	Sodium borohydride, 98%, Thermo Scientific Chemicals	100 g, 500 g
A12947	Cerium(III) chloride heptahydrate, 99%, Thermo Scientific Chemicals	50 g, 250 g, 1000 g
17684	Methanol, 99.9%, for analysis, Thermo Scientific Chemicals	500 mL, 1 L, 2.5 L, 10 L



## Fluorinating Reagent

Fluorine is commonly used in organic synthesis due to its unique properties, which can impart desirable characteristics to organic molecules. Some common fluorinating reagents include elemental fluorine (F<sub>2</sub>), hydrogen fluoride (HF), diethylaminosulfur trifluoride (DAST), and tetra-*n*-butylammonium fluoride (TBAF).

Fluorine can be used to replace other functional groups like hydroxyl, carbonyl, or carboxylic acid groups, leading to enhanced stability, lipophilicity, and biological activity in pharmaceuticals. It can also be used to protect specific functional groups during chemical reactions, enabling selective transformations.

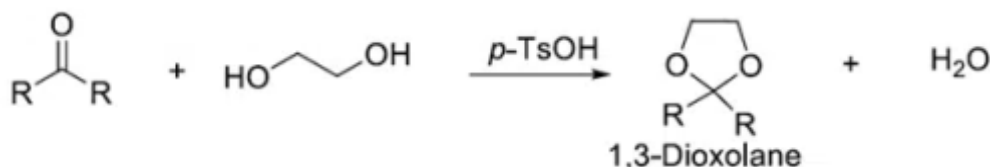
Fluorinating compounds find applications across various sectors, including pharmaceuticals, agrochemicals and materials science due to their ability to modulate a molecule's properties and reactivity.

Product code	Product	CAS No.	Pack Size
19212	Sodium-tetrafluoroborate	13755-29-8	25g, 500g, 2.5kg
20337	Copper (II) Fluoride	7789-19-7	25g, 100g
19124	Antimony-trifluoride-98	7783-56-4	5g, 100g, 500g
35062	Triethylamine Trihydrofluoride	73602-61-6	25ml, 100ml
31190	<i>n</i> -fluorobenzenesulfonimide-97	133745-75-2	5g, 25g
44965	Potassium-fluoride	7789-23-3	100g
L17117	hydrogen-fluoride-pyridine-complex-ca-70-hf	62778-11-4	5g, 25g, 100g
A11992	Diethylaminosulfur-trifluoride-95	38078-09-0	5g, 25g, 100g
013069	manganese-iii-fluoride-98	7783-53-1	10g, 25g
L14324	<i>n</i> -fluoropyridinium-trifluoromethanesulfonate	107263-95-6	1g, 5g
H25775	Pentafluoroethyl-trimethylsilane-97	124898-13-1	1g, 5g
L11464	Benzoyl-fluoride-97	455-32-3	5g, 25g, 100g
L19751	4-morpholinylsulfur-trifluoride-95	51010-74-3	1g, 5g
A15666	Cyanuric fluoride 98%	675-14-9	5g, 10g, 25g

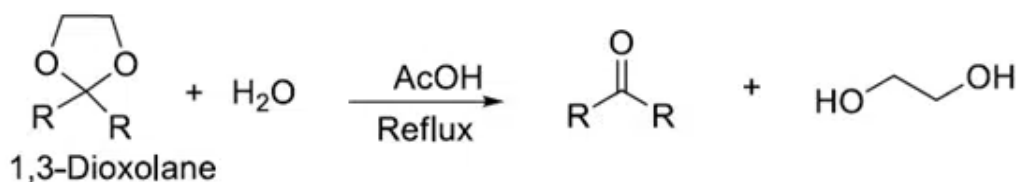
## Protection & Deprotection of Functional Groups

- Protection and deprotection of functional groups is a very important approach in organic synthesis. The detail of this approach has been discussed below.
- Many organic synthesis processes use substrates with multiple functional groups. If these functional groups interact or if one group reacts with a reagent in a competitive manner with another group, the synthesis may be affected.
- The presence of a ketone and an aldehyde group in the same molecule, for example, may present a difficulty since they react similarly with nucleophilic species like the Grignard reagent. In the same way, having alcohol and an amine in the same molecule might produce issues.
- The process of protection-deprotection adds two steps to a synthesis. The protecting group must be relatively inert and ideally react with a specific reagent to unmask it.

- A protecting group is a molecular framework that is introduced onto a specific functional group in polyfunctional molecules to block its reactivity under reaction conditions.
- There is no such thing as the best protective group. All of the reactants, reaction conditions, and functionalities involved in the proposed synthetic scheme should be addressed while choosing a protective group.
- When a chemical reaction is to be carried out selectively at one reactive site in a multifunctional compound, other reactive sites must be temporarily blocked. This process is known as the protection of the functional group. An example of protection of the carbonyl group is shown below:



After completion of the reaction at the desired location, the protected group can be removed by suitable reactions, this process is known as deprotection of functional groups. The above-protected carbonyl group is deprotected as shown below.



## Reagent Employed in Protection & Deprotection

Protecting Functional Group	Product Code	Reagent
<b>Alcohol</b>		
It is also used in the protection of the OH groups	18598	MEM chloride
tert-Butyldimethylchlorosilane is used to protect hydroxyl group in organic synthesis	18393	tert-Butylchlorodimethylsilane, 98
Selective protection of Hydroxy Group	44616	Triethylsilane, 99%
It is used in the selective silylation of primary hydroxyl groups without affecting the secondary hydroxyl group	44617	Triisopropylsilane, 98%
It is used as selective protecting reagent that is used for primary hydroxyl groups	15656	4-Methoxytrityl chloride, 97%
It serves as a phenol protecting group	21902	2-(Trimethylsilyl)ethoxymethyl chloride, 90%
<b>Amines</b>		
Reagent for the introduction of the Boc protecting group	42680	Di-tert-butyl dicarbonate, 1M solution in THF
Base sensitive amino protecting group for solid-phase peptide synthesis & used in capillary electrophoresis	17094	9-Fluorenylmethyl chloroformate, 98%
N-(Ethoxycarbonyl)phthalimide is used to protect amine functional groups. Reagent for the conversion of amines and amino acids to their phthaloyl derivatives under mild conditions	10831	N-Carboxyphthalimide, 99+%
It is useful for the introduction of carboxybenzyl (cbz) protecting group for amines such as aniline in organic synthesis	15294	Benzyl chloroformate, 97 wt%

## Reagent Employed in Protection & Deprotection

Protecting Functional Group	Product Code	Reagent
<b>Aldehyde &amp; Ketone</b>		
To introduce the protecting group for aldehydes by the preparation of acetals	42928	Trimethyl orthoformate, 99+%, anhydrous
To introduce the protecting group for aldehydes by the preparation of acetals	11563	2,2-Dimethoxypropane, 98+%
It plays an important role in organic synthesis as a protecting group for carbonyl groups		29553 Ethylene glycol, 99.5%
Protection of carbonyl group using p-toluenesulfonic acid in the presence of triethyl orthoformate.	40855	2,2-Dimethyl-1,3-propanediol, 99%
1,2-Ethanedithiol is used as a reagent in organic synthesis to convert carbonyl compounds to thioacetals (1,3-dithiolanes)	11785	1,2-Ethanedithiol, 95%
<b>Esters &amp; Carboxylic Acid</b>		
Potentially very useful, low molecular weight protecting group for the carboxyl function	L01816	Dicyclopropylmethanol, 97%
2-(Trimethylsilyl)ethanol is used as a protecting reagent for carboxyl, phosphoryl, hydroxyl and amino group in organic synthesis.	21048	2-(Trimethylsilyl)ethanol, 99%
4-(2-Hydroxyethyl)pyridine acts as a reagent for the protection of carboxyl groups as their 2-(4-pyridyl)ethyl esters in organic synthesis	L13780	4-(2-Hydroxyethyl)pyridine
4-Chlorobenzyl alcohol acts as a reagent for the protection of carboxyl groups as their 4-chlorobenzyl esters	10877	4-Chlorobenzyl alcohol, 99%
<b>Other Reagents</b>		
To introduce the benzyl protecting group to alcohols and carboxylic acids by forming corresponding benzyl ether and benzyl ester, respectively	18085	Benzyl Chloride
To introduce the benzyl protecting group to alcohols and carboxylic acids by forming corresponding benzyl ether and benzyl ester, respectively	40203	Benzoyl chloride, 98+%, ACS reagent
Convert hydroxyl groups into good leaving group by forming sulfonates	13903	p-Toluenesulfonyl chloride, 99+%
Reagent in preparation of 1,2 Diol	11563	2,2-Dimethoxypropane, 98+%
It acts as a protecting reagent for thiols, alcohols and amines	14040	Triphenylmethyl chloride, 98%



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