

# Sulfur Products



In the field of organic chemistry, sulfur (or sulphur) containing carbon compounds are referred to as organosulfur compounds. Organosulfur compounds are responsible for the kind of unpleasant odors of decaying organic matter. Among the 20 common amino acids, two are organosulfur compounds. Thioether, thioester, thiol derivatives, thiourea, sulfonamides, and sulfoxide are some of the important classes of sulfur products. Sulfur compounds are involved in many chemical reactions as useful intermediates including the Herz reaction, which is a chemical reaction of an aniline-derivative with disulfur dichloride to give an organosulfur compound, Herz salt, as an intermediate from which the corresponding sodium thiolate is formed.

The role of sulfur products in medicinal and pharmaceutical chemistry is highly remarkable. Many of the life saving drugs such as cephalosporin compounds, penems and penicillins are sulfur compounds. Similarly sulfonamide serves as the basis for many of the life-saving drugs called sulfa drugs. Sulfa drugs act as anti-microbial and anti-bacterial agents. The widely used proton pump inhibitors are sulfoxides. In addition to this, sulfur products are used in numerous applications in the chemical industry including fire-fighting foams (e.g. perfluorooctanesulfonic acid), repellents preparations, agricultural chemicals, and organic solvents (such as dimethyl sulfoxide). Many commercial elastomers contain polysulfides as crosslinks. Thioindoxyl derivatives are important intermediates in the synthesis of some dyes.

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## Disulfides



In organic chemistry, disulfide refers to that class of carbon compounds which contain a sulfur-sulfur linkage. Glutathione disulfide is a naturally occurring disulfide. Disulfide bonds are weaker than C-C and C-H; and are the "weak link" in an organic disulfide. They are attacked both by nucleophilic and electrophilic reagents. In organic synthesis, disulfides are used to prepare other sulfur containing compounds. Aryl disulfides can be used to activate carboxylic acid as aryl thioesters for the subsequent preparation of substituted amides, as often used in beta-lactam antibiotic chemistry. With chlorine under milder conditions, disulfide forms sulfonyl chlorides while under harder conditions they form sulfonic acid. Bis(2-aminophenyl) disulfides are a potential precursor to the synthesis of 2-aminobenzenethiols.

Dibenzyl disulfide finds utility in the manufacturing of fragrance compounds, high-pressure lubricant additives, and corrosion inhibitors. Alkyl disulfides are generally employed to prepare highly ordered monolayers. The property of such monolayers can be attuned by changing the chemical nature of the terminal groups. Such self-assembled monolayers of disulfides find use in modern micro and nano-fabrication, biomaterials, molecular electronics, and sensory applications. Disulfide linkages are frequently encountered in proteins and as cross-linkers during the vulcanization of rubber. Pyridine disulfides, as sulfhydryl cross-linkers, are employed to introduce disulfide linkages in proteins that already have a sulfhydryl group through a disulfide exchange reaction.

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	H55807	2,2'-Diaminodiphenyl disulfide, 97%
	A11118	2,2'-Dipyridyl disulfide, 98%
	L04213	2,2'-Dithiosalicylic acid, 96%
	B24023	4,4'-Dipyridyl disulfide, 98%
	L12110	Bis(2-benzamidophenyl) disulfide, 97%
	L11800	Bis(2-hydroxyethyl) disulfide, tech. 90%
	L17186	Bis(3-fluorophenyl) disulfide, 97%
	B25604	Bis(4-chlorophenyl) disulfide, 98+%
	H32589	Bis(4-fluorophenyl) disulfide, 98%
	B25399	Bis(4-methoxyphenyl)disulfide, 97%
	L19792	Bis(phenylacetyl) disulfide, 98%
	B22873	Cystamine dihydrochloride, 97+%
	L11106	Diallyl disulfide, tech. 80%, remainder mainly diallyl sulfide and diallyl trisulfide
	L10971	Diallyl sulfide, 98%

	L11850	Dibenzyl disulfide, 98+%
	L12182	Dicyclohexyl disulfide, 98%
	L10065	Diethyl disulfide, 99%
	L09679	Dimethyl disulfide, 99%
	B22568	Di-n-hexyl disulfide, tech. 85%
	L09881	Di-n-propyl disulfide, 99%
	B20331	Formamidine disulfide dihydrochloride, 97%
	44132	N,N'-Bis(acryloyl)cystamine, 98%
	L10114	Phenyl trifluoromethyl sulfide, 98%
	A15310	Potassium peroxydisulfate, 97%

# Sulfonamides



Sulfonamides belong to the class of compounds that contain the functional group  $-S(=O)_2-N$ . The S-N bond in a sulfonamide compound is relatively difficult to cleave making them unreactive. Owing to the rigid nature of the functional group, sulfonamides are generally crystalline. Sulfonamides are important compounds in organic chemistry that have been extensively explored due to their wide-ranging chemical applications. Phenyl triflimide is used as a triflating reagent. The related metal triflimidates find use as catalysts. Chiral sulfonamides have long been used for several asymmetric transformations. Sulfonamides are important intermediates in a number of organic transformations. Sulfonamides are efficient partners in the synthesis of secondary amines and isothiurea.

Industrially, sulfonamides are used as flow-promoting agents for paints and adhesives and as plasticizers for polymers like polyamide because they increase flexibility. Toluenesulfonamides are used as antistatic agents and gloss enhancers in plastic film preparations. In the field of pharmaceutical chemistry, sulfonamide-based drugs are used as antibiotics, anticonvulsants, and diuretics.

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	H31898	1-(2,3,5,6-Tetramethylphenylsulfonylamino)cyclohexanecarboxylic acid, 95%
	H33819	1-(2,3,5,6-Tetramethylphenylsulfonyl)-L-proline, 96%
	H60482	1-(2,4,6-Triisopropylbenzenesulfonyl)imidazole, 98%
	B25038	1-(2,4,6-Triisopropylphenylsulfonyl)-1,2,4-triazole, 98%
	H33715	1-(2,5-Dimethylphenylsulfonylamino)cyclohexanecarboxylic acid, 96%
	H33074	1-(2,5-Dimethylphenylsulfonyl)-L-proline, 96%
	A19830	1,2-Bis(methanesulfonamido)benzene, 97%
	H60206	1-(2-Bromophenylsulfonyl)-3-methylpiperidine, 97%
	H54792	1-(2-Mesitylenesulfonyl)-3-nitro-1H-1,2,4-triazole, 99+%
	H33849	1-(3-Chlorophenylsulfonyl)-L-proline, 96%
	L03625	1,3-Diphenylacetone p-toluenesulfonylhydrazone, 99%
	H34351	1-[3-(Trifluoromethyl)phenylsulfonylamino]cyclohexanecarboxylic acid, 96%
	H33843	1-[3-(Trifluoromethyl)phenylsulfonyl]-L-proline, 96%
	H33365	1-[4-(2-Chlorophenoxy)phenylsulfonylamino]cyclohexanecarboxylic acid, 96%















	H33033	1-[4-(2-Chlorophenoxy)phenylsulfonyl]-L-proline, 96%
	H34096	1-[4-(2-Methoxyphenoxy)phenylsulfonylamino]cyclohexanecarboxylic acid, 96%
	H33385	1-[4-(2-Methoxyphenoxy)phenylsulfonyl]-L-proline, 96%
	H33299	1-(4'-Chloro-4-biphenylsulfonylamino)cyclohexanecarboxylic acid, 96%
	H33200	1-(4'-Chloro-4-biphenylsulfonyl)-DL-proline, 96%
	H32698	1-(4'-Methoxy-4-biphenylsulfonylamino)cyclohexanecarboxylic acid, 96%
	H32890	1-(4'-Methoxy-4-biphenylsulfonyl)-L-proline, 96%
	H56035	1-(4-Methoxyphenylsulfonyl)pyrrolidine, 97%
	H59357	1-Benzenesulfonyl-4-bromo-1H-pyrazole, 97%
	H55503	1-(Ethylsulfonyl)piperazine, 97%
	A15053	1-(Mesitylenesulfonyl)imidazole, 98+%
	H35352	1-Methyl-3-n-octylimidazolium bis(trifluoromethylsulfonyl)imide, 99%
	H53386	1-Methylsulfonyl-1H-benzotriazole, 97%
	L00531	1-(Methylsulfonyl)imidazole, 98+%
	H63870	1-(Methylsulfonyl)piperazine, 97%
	H26954	1-Phenylsulfonyl-1H-pyrazole-4-boronic acid pinacol ester, 95%
	H34284	1-(Phenylsulfonyl)indole-3-carboxylic acid, 97%
	L17566	1-(Phenylsulfonyl)indole, 98%
	H32914	1-Phenylsulfonylpyrazole, 95%











	A11599	1-(Phenylsulfonyl)pyrrole, 98%
	H54191	1-(p-Toluenesulfonyl)imidazole, 98+%
	B22320	1-(p-Toluenesulfonyl)indole, 95%
	H28641	1-(p-Toluenesulfonyl)pyrrole, 98%
	44358	(1R)-10-Camphorsulfonamide, 97%
	H26061	(1R,2R)-N-(p-Toluenesulfonyl)-1,2-diphenylethanediamine, 98+%
	44361	(1S)-10-Camphorsulfonamide, 97%
	H27867	(1S,2S)-N-Methylsulfonyl-1,2-diphenylethanediamine, 98+%
	H27006	(1S,2S)-N-(p-Toluenesulfonyl)-1,2-diphenylethanediamine
	H52694	2-(1-Pyrrolidinylsulfonyl)benzeneboronic acid, 97%
	H32489	2,3-Dichlorobenzenesulfonamide, 97%
	H27687	2,4,5-Trichlorobenzenesulfonamide, 97%
	H26934	2,4,6-Trichlorobenzenesulfonamide, 97%
	L08445	2,4,6-Triisopropylbenzenesulfonamide, 98%
	17976	2,4,6-Triisopropylbenzenesulfonyl hydrazide
	H55384	2,4,6-Trimethyl-N-[4-(trifluoromethyl)benzyl]benzenesulfonamide, 97%
	B24589	2,4-Dichloro-5-sulfamoylbenzoic acid, 98%

































	H55437	2,4-Difluorobenzenesulfonamide, 96%
	H31707	2,4-Dimethoxybenzenesulfonamide, 96%
	H32584	2,5-Dibromobenzenesulfonamide, 97%
	H31556	2,5-Difluorobenzenesulfonamide, 98%
	B22649	2,5-Dimethoxybenzenesulfonamide, 97%
	H27128	2,6-Difluorobenzenesulfonamide, 97%
	B21912	2-Aminobenzenesulfonamide, 98%
	H31649	2-Bromo-4-(trifluoromethyl)benzenesulfonamide, 97%
	H32637	2-Chloro-4-(trifluoromethyl)benzenesulfonamide, 97%
	L09082	2-Chlorobenzenesulfonamide, 98%
	H61743	2-Fluorobenzenesulfonamide, 97%
	L16947	2-Methoxy-4-methylbenzenesulfonamide, 95%
	B23698	2-Methoxy-5-sulfamoylbenzoic acid, 97%
	A13553	2-(Methoxycarbonyl)benzenesulfonamide, 98%
	H53119	2-Methyl-5-(-1-piperidinylsulfonyl)benzeneboronic acid, 98%
	H52881	2-Methyl-5-(-1-pyrrolidinylsulfonyl)benzeneboronic acid, 98%
	H53288	2-(Methylsulfonylamino)benzeneboronic acid, 95%
	A15689	2-Nitrobenzenesulfonamide, 97+%


















	L16929	2-[N,N-Bis(trifluoromethylsulfonyl)amino]-5-chloropyridine, 99%
	L17433	2-[N,N-Bis(trifluoromethylsulfonyl)amino]pyridine, 98%
	H27250	2-(p-Toluenesulfonylamino)benzeneboronic acid pinacol ester, 97%
	B21609	2-(Trifluoromethoxy)benzenesulfonamide, 99%
	L19717	2-(Trifluoromethyl)benzenesulfonamide, 97%
	H52644	3-(1-Piperidinylsulfonyl)benzeneboronic acid, 98%
	H52717	3-(1-Pyrrolidinylsulfonyl)benzeneboronic acid, 97%
	H33644	3-(2,3,5,6-Tetramethylphenylsulfonylamino)benzoic acid, 96%
	H34091	3-(2,5-Dimethylphenylsulfonylamino)benzoic acid, 96%
	H53006	3-(3-Bromophenylsulfonamido)benzeneboronic acid, 95%
	H33885	3-(3-Chlorophenylsulfonamido)benzoic acid, 96%
	H33565	3-(3-Chlorophenylsulfonylamino)cyclohexanecarboxylic acid, 96%
	H33462	3-[3-(Trifluoromethyl)phenylsulfonamido]benzoic acid, 96%
	H33743	3-[4-(2-Chlorophenoxy)phenylsulfonamido]benzoic acid, 96%
	H33914	3-[4-(2-Methoxyphenoxy)phenylsulfonylamino]benzoic acid, 96%
	H34323	3-[4-(4-Chlorophenyl)phenylsulfonamido]benzoic acid, 96%
	H32583	3-[4-(4-Methoxyphenyl)phenylsulfonamido]benzoic acid
	H31964	3,4,5-Trifluorobenzenesulfonamide, 97%



















	H55947	3,4-Difluorobenzenesulfonamide, 97%
	H61745	3,4-Difluoro-N-(4-fluorobenzyl)benzenesulfonamide, 97%
	H61926	3,4-Difluoro-N-(4-methylbenzyl)benzenesulfonamide, 97%
	H54992	3-(4-Fluorophenylsulfamoyl)benzeneboronic acid, 97%
	H53242	3-(4-Morpholinylsulfonyl)benzeneboronic acid, 96%
	H55923	3,5-Dichlorobenzenesulfonamide, 97%
	L01939	3,5-Dichlorosulfanilamide, 97%
	L19720	3,5-Difluorobenzenesulfonamide, 98%
	B21857	3-Aminobenzenesulfonamide, 97+%
	H53142	3-Benzylsulfamoyl-4-methoxybenzeneboronic acid, 93%
	H32042	3-Bromo-1-phenylsulfonyl-7-azaindole, 95%
	H66226	3-Bromo-1-(phenylsulfonyl)indole, 97%
	B25681	3-Bromobenzenesulfonamide, 97%
	H64363	3-Bromo-N-(2-methylbenzyl)-5-(trifluoromethyl)benzenesulfonamide, 97%

	H60436	3-Bromo-N-methylbenzenesulfonamide, 97%
	H60252	3-Bromo-N-phenylbenzenesulfonamide, 97%
	H26406	3-Chloro-4-fluorobenzenesulfonamide, 97%
	H32513	3-Chloro-4-methylbenzenesulfonamide, 97%
	L08349	3-Chlorobenzenesulfonamide, 98%
	H27646	3-Cyanobenzenesulfonamide, 98%
	H52915	3-(Cyclohexylsulfamoyl)benzeneboronic acid, 97%
	H52845	3-[Cyclopropyl(4-methoxybenzyl)sulfamoyl]benzeneboronic acid, 98%
	H52441	3-(Cyclopropylsulfamoyl)benzeneboronic acid, 98%
	H52770	3-Diethylsulfamoyl-4-methoxybenzeneboronic acid, 95%
	H52838	3-(Dimethylsulfamoyl)benzeneboronic acid, 98%
	H54354	3-(Di-n-propylsulfamoyl)benzeneboronic acid, 97%
	H53362	3-(Ethylsulfamoyl)benzeneboronic acid, 97%
	H32484	3-Fluoro-4-methoxybenzenesulfonamide, 98%
	H55740	3-Fluorobenzenesulfonamide, 97%
	H31982	3-Iodo-1-phenylsulfonyl-7-azaindole, 95%
	H27696	3-Iodo-1-(phenylsulfonyl)indole, 95%
	H53236	3-(Isopropylsulfamoyl)benzeneboronic acid, 95%









	H28844	3-Methoxybenzenesulfonamide, 97%
	H52895	3-(Methylsulfonylamino)benzeneboronic acid, 97%
	H52705	(3-Methylsulfonylaminomethyl)benzeneboronic acid, 98%
	H52484	3-(n-Butylsulfamoyl)benzeneboronic acid, 95%
	H55831	3-Nitrobenzenesulfonamide, 99%
	H54615	3-(Phenylsulfamoyl)benzeneboronic acid, 97%
	H54339	3-Phenylsulfonamidopyridine-5-boronic acid pinacol ester, 96%
	H27236	3-(p-Toluenesulfonylamino)benzeneboronic acid pinacol ester, 97%
	H52628	3-Sulfamoylbenzeneboronic acid, 97%
	H52655	3-(tert-Butylsulfamoyl)benzeneboronic acid, 97%
	H32174	3-(Trifluoromethoxy)benzenesulfonamide, 97%
	L19715	3-(Trifluoromethyl)benzenesulfonamide, 97%
	H53088	4-(1-Azetidinylsulfonyl)benzeneboronic acid, 96%
	H53094	4-(1-Piperidinylsulfonyl)benzeneboronic acid, 97%
	H53321	4-(1-Pyrrolidinylsulfonyl)benzeneboronic acid, 97%
	H52438	4-(1-Pyrrolylsulfonyl)benzeneboronic acid, 98%
	H31800	4-(2,3,5,6-Tetramethylphenylsulfonylamino)benzoic acid, 97%
	H31525	4-(2,3,5,6-Tetramethylphenylsulfonylaminomethyl)benzoic acid, 96%



















	H60663	4'-(2,5-Dimethoxyphenylsulfamoyl)acetanilide, 97%
	H33445	4-(2,5-Dimethylphenylsulfonylamino)benzoic acid, 96%
	H34175	4-(2,5-Dimethylphenylsulfonylaminomethyl)benzoic acid, 96%
	B20745	4-(2-Aminoethyl)benzenesulfonamide, 99%
	H52719	4-(2-Hydroxyethylsulfamoyl)benzeneboronic acid, 95%
	H33620	4-(3-Chlorophenylsulfonylamino)benzoic acid, 96%
	H34152	4-(3-Chlorophenylsulfonylaminomethyl)benzoic acid, 96%
	H53099	4-(3-Chloropropylsulfamoyl)benzeneboronic acid, 98%
	H33932	4-[3-(Trifluoromethyl)phenylsulfonylamino]benzoic acid, 96%
	H33187	4-[3-(Trifluoromethyl)phenylsulfonylaminomethyl]benzoic acid, 96%
	H34000	4-[4-(2-Chlorophenoxy)phenylsulfonylamino]benzoic acid, 96%
	H34327	4-[4-(2-Chlorophenoxy)phenylsulfonylaminomethyl]benzoic acid, 96%
	H33337	4-[4-(2-Methoxyphenoxy)phenylsulfonylamino]benzoic acid, 96%
	H34403	4-[4-(2-Methoxyphenoxy)phenylsulfonylaminomethyl]benzoic acid, 96%



















	H34003	4-[4-(2-Methylphenoxy)phenylsulfonylamino]benzoic acid, 96%
	H34497	4-(4'-Chloro-4-biphenylsulfonylamino)benzoic acid, 96%
	H34060	4-(4'-Chloro-4-biphenylsulfonylamino)benzoic acid, 96%
	H32828	4-(4'-Methoxy-4-biphenylsulfonylamino)benzoic acid, 96%
	H32286	4-(4'-Methoxy-4-biphenylsulfonylamino)benzoic acid, 96%
	H52601	4-(4-Morpholinylsulfonyl)benzeneboronic acid, 96%
	H52907	4-(4-Thiomorpholinylsulfonyl)benzeneboronic acid, 98%
	H60820	4'-(5-Chloro-2-methoxyphenylsulfamoyl)acetanilide, 97%
	H33788	4-(8-Quinolinylnsulfonylamino)benzoic acid, 96%
	H32901	4-Acetylbenzenesulfonamide, 97%
	H66395	4-Amino-2,5-dimethoxy-N-phenylbenzenesulfonamide, 98%
	L14589	4-Amino-N-methyl-alpha-toluenesulfonamide, 97%
	L14580	4-Amino-N-methyl-alpha-toluenesulfonamide hydrochloride, 98+%
	H33747	4-Amino-N,N-dimethylbenzenesulfonamide, 97%
	H52917	4-[Benzyl(4-methoxybenzyl)sulfamoyl]benzeneboronic acid, 97%
	H26010	4-Bromo-2,5-difluorobenzenesulfonamide, 98+%
	L19719	4-Bromo-2-chlorobenzenesulfonamide, 97%
	H31908	4-Bromo-3,5-dimethyl-1-phenylsulfonyl-1H-pyrazole, 95%















	L19707	4-Bromo-3-fluorobenzenesulfonamide, 97%
	H32894	4-Bromo-3-methylbenzenesulfonamide, 97%
	L19709	4-Bromo-3-(trifluoromethyl)benzenesulfonamide, 97%
	L08602	4-Bromobenzenesulfonamide, 98%
	H56605	4-Bromo-N-(4-chloro-2,5-dimethoxyphenyl)benzenesulfonamide, 97%
	H63338	4-Bromo-N-(4-ethoxyphenyl)-3-(trifluoromethyl)benzenesulfonamide, 97%
	H64637	4-Bromo-N,N-bis(4-methoxybenzyl)benzenesulfonamide, 95%
	H50579	4-Bromo-N,N-dimethylbenzenesulfonamide, 97%
	B21683	4-Chloro-2,5-dimethylbenzenesulfonamide, 97%
	B24057	4-Chloro-3-sulfamoylbenzoic acid, 98%
	H31836	4-Cyanobenzenesulfonamide, 97%
	H53053	4-[Cyclohexyl(4-methoxybenzyl)sulfamoyl]benzeneboronic acid, 97%
	H52473	4-(Diethylsulfamoyl)benzeneboronic acid, 98%
	H52936	4-(Dimethylsulfamoyl)benzeneboronic acid, 95%
	H60353	4'-(Di-n-propylsulfamoyl)acetanilide, 97%
	H54424	4-(Di-n-propylsulfamoyl)benzeneboronic acid, 97%
	H50703	4-(Di-n-propylsulfamoyl)benzoyl chloride, 96%
	H52485	4-[Ethyl(4-methoxybenzyl)sulfamoyl]benzeneboronic acid, 98%







































	H52840	4-(Ethylsulfamoyl)benzeneboronic acid, 97%
	H31768	4-Fluoro-2-methylbenzenesulfonamide, 97%
	H32886	4-Fluoro-2-(trifluoromethyl)benzenesulfonamide, 97%
	H54516	4-Fluoro-3-nitrobenzenesulfonamide, 97%
	H31701	4-Fluoro-3-(trifluoromethyl)benzenesulfonamide, 97%
	H55834	4-Fluorobenzenesulfonamide, 98+%
	H31987	4-Iodo-1-phenylsulfonyl-1H-pyrazole, 95%
	H32950	4-Isopropylbenzenesulfonamide, 97%
	H53029	4-(Isopropylsulfamoyl)benzeneboronic acid, 98%
	H53291	4-Methoxy-3-(1-piperidinylsulfonyl)benzeneboronic acid, 95%
	H52997	4-Methoxy-3-(1-pyrrolidinylsulfonyl)benzeneboronic acid, 95%
	H53329	4-Methoxy-3-(4-morpholinylsulfonyl)benzeneboronic acid, 95%
	L08961	4-Methoxybenzenesulfonamide, 98%
	H56822	4-Methoxy-N-(1-naphthyl)benzenesulfonamide, 97%















	H57808	4-Methoxy-N-(2,4,6-trimethylphenyl)benzenesulfonamide, 97%
	H56245	4-Methoxy-N-(4-methylbenzyl)benzenesulfonamide, 97%
	H26039	4-Methyl-3-nitrobenzenesulfonamide, 97%
	A13529	4-Methylbenzenesulphonylhydrazide, 97%
	H52493	4-Methylsulfamoylbenzeneboronic acid, 97%
	H53020	4-(Methylsulfonylamino)benzeneboronic acid, 95%
	B20439	4-(Methylsulfonylamino)benzonitrile, 97%
	H53156	4-(N-[2-(tert-Butyldimethylsilyloxy)ethyl]sulfamoyl)benzeneboronic acid, 96%
	H53277	4-[n-Butyl(4-methoxybenzyl)sulfamoyl]benzeneboronic acid, 98%
	H53218	4-(n-Butylsulfamoyl)benzeneboronic acid, 97%
	A18101	4-Nitrobenzenesulfonamide, 97%
	H27486	4-Phenoxybenzenesulfonamide, 98%
	L18428	4-Sulfamidobenzoyl chloride DMF complex, 95%
	H52928	4-Sulfamoylbenzeneboronic acid, 97%
	B22449	4-Sulfamoylbenzoic acid, 96%
	B20015	4-Sulfonamidophenylhydrazine hydrochloride, 97%
	H52923	4-(tert-Butylsulfamoyl)benzeneboronic acid, 97%
	L19716	4-(Trifluoromethoxy)benzenesulfonamide, 97%



















	B25243	4-(Trifluoromethyl)benzenesulfonamide, 97%
	H34056	5-Amino-2-methylbenzenesulfonamide, 96%
	H52919	5-Benzylsulfamoyl-2-methylbenzeneboronic acid, 97%
	H50546	5-Chloro-1,3-dimethyl-1H-pyrazole-4-sulfonamide
	H32144	5-Chloro-2-fluorobenzenesulfonamide, 97%
	H26019	5-Chloro-2-methoxy-4-methylbenzenesulfonamide, 98%
	B20477	5-Chlorothiophene-2-sulfonamide, 97%
	H52509	5-Diethylsulfamoyl-2-methylbenzeneboronic acid, 97%
	H52996	5-Dimethylsulfamoyl-2-methylbenzeneboronic acid, 98%
	B23586	7-Fluorobenzofurazan-4-sulfonamide, 98%
	B20948	8-Chloronaphthalene-1-sulfonic acid dihydrate, 97%
	H55386	8-(p-Toluenesulfonylamino)quinoline, 97%
	L07562	Acetazolamide, 99%
	H53474	Acetophenone p-toluenesulfonylhydrazone, 98%
	A16740	alpha-Toluenesulfonamide, 98%
	A10891	Benzenesulfonamide, 98+%
	B23971	Benzenesulfonyl hydrazide, 98%
	H53486	Benzophenone p-toluenesulfonylhydrazone, 97%

	H37856	Bosentan monohydrate, 98%
	L20155	Burgess Reagent, 96%
	A12044	Chloramine-T trihydrate, 98%
	42374	Chloramine-T trihydrate, ACS, 98.0-103.0%
	H32230	Cyclopentyl thiocyanate, 95%
	H55507	Cyclopropanesulfonamide, 97%
	H53447	Desoxybenzoin p-toluenesulfonylhydrazone, 97%
	H60569	Dibenzenesulfonamide, 95%
	H36124	Dronedarone hydrochloride, 98%
	B21459	Glybenzcyclamide, 99%
	B22093	Hydrochlorothiazide, 98%
	H56358	Ibutilide hemifumarate salt, 99%
	H55586	Mesitylene-2-sulfonyl hydrazide, 97%
	A10885	Methanesulfonamide, 97+%



















	H33336	Methyl 4-(4'-chloro-4-biphenylsulfonamino)benzoate, 96%
	H58592	N-(1-Naphthyl)-3-nitrobenzenesulfonamide, 97%
	H33119	N-(2,3,5,6-Tetramethylphenylsulfonyl)-beta-alanine, 96%
	H34045	N-(2,3,5,6-Tetramethylphenylsulfonyl)-DL-alanine, 96%
	H33990	N-(2,3,5,6-Tetramethylphenylsulfonyl)-DL-phenylalanine, 96%
	H32740	N-(2,3,5,6-Tetramethylphenylsulfonyl)glycine, 96%
	H33889	N-(2,3,5,6-Tetramethylphenylsulfonyl)leucine, 96%, mixture of enantiomers
	H32909	N-(2,3,5,6-Tetramethylphenylsulfonyl)-L-valine monohydrate, 96%
	H33825	N-(2,5-Dimethylphenylsulfonyl)-beta-alanine, 96%
	H33190	N-(2,5-Dimethylphenylsulfonyl)-DL-alanine, 96%
	H33458	N-(2,5-Dimethylphenylsulfonyl)-DL-leucine, 96%
	H34274	N-(2,5-Dimethylphenylsulfonyl)-DL-phenylalanine, 94%
	H34103	N-(2,5-Dimethylphenylsulfonyl)-DL-valine, 96%
	H33039	N-(2,5-Dimethylphenylsulfonyl)glycine, 96%
	H34135	N-(2,5-Dimethylphenylsulfonyl)-S-methyl-DL-homocysteine, 96%
	H55784	N-(2,6-Dimethylphenyl)-4-methylbenzenesulfonamide, 97%
	H55897	N-(2-Methoxy-5-methylphenyl)benzenesulfonamide, 97%
	H55330	N-(3,4-Dimethylphenyl)-4-fluorobenzenesulfonamide, 97%




	H60031	N-(3,5-Dichlorophenyl)benzenesulfonamide, 97%
	H34240	N-(3-Chlorophenylsulfonyl)-beta-alanine, 96%
	H34436	N-(3-Chlorophenylsulfonyl)-DL-alanine, 96%
	H33213	N-(3-Chlorophenylsulfonyl)-DL-leucine, 96%
	H33999	N-(3-Chlorophenylsulfonyl)-DL-phenylalanine, 96%
	H33575	N-(3-Chlorophenylsulfonyl)-DL-valine, 96%
	H34067	N-(3-Chlorophenylsulfonyl)glycine, 96%
	H34435	N-[3-(Trifluoromethyl)phenylsulfonyl]-beta-alanine, 96%
	H34306	N-[3-(Trifluoromethyl)phenylsulfonyl]-DL-alanine, 96%
	H33922	N-[3-(Trifluoromethyl)phenylsulfonyl]-DL-leucine, 96%
	H33543	N-[3-(Trifluoromethyl)phenylsulfonyl]-DL-phenylalanine, 96%
	H33882	N-[3-(Trifluoromethyl)phenylsulfonyl]-DL-valine, 96%
	H34214	N-[3-(Trifluoromethyl)phenylsulfonyl]glycine, 96%
	H33374	N-[4-(2-Chlorophenoxy)phenylsulfonyl]-beta-alanine, 96%
	H33483	N-[4-(2-Chlorophenoxy)phenylsulfonyl]-DL-alanine, 96%
	H34391	N-[4-(2-Chlorophenoxy)phenylsulfonyl]-DL-leucine, 96%
	H33428	N-[4-(2-Chlorophenoxy)phenylsulfonyl]-DL-phenylalanine, 96%
	H34438	N-[4-(2-Chlorophenoxy)phenylsulfonyl]-DL-valine, 96%



















	H34320	N-[4-(2-Chlorophenoxy)phenylsulfonyl]glycine, 96%
	H33687	N-[4-(2-Chlorophenoxy)phenylsulfonyl]-S-methyl-DL-homocysteine, 96%
	H34361	N-[4-(2-Methoxyphenoxy)phenylsulfonyl]-beta-alanine, 96%
	H34230	N-[4-(2-Methoxyphenoxy)phenylsulfonyl]-DL-alanine, 96%
	H34268	N-[4-(2-Methoxyphenoxy)phenylsulfonyl]-DL-leucine, 96%
	H34314	N-[4-(2-Methoxyphenoxy)phenylsulfonyl]-DL-phenylalanine, 96%
	H34237	N-[4-(2-Methoxyphenoxy)phenylsulfonyl]-DL-valine, 96%
	H33625	N-[4-(2-Methoxyphenoxy)phenylsulfonyl]glycine, 96%
	H34196	N-[4-(2-Methoxyphenoxy)phenylsulfonyl]-S-methyl-DL-homocysteine, 96%
	H61129	N-[4-(4-Fluorophenyl)-5-formyl-6-isopropyl-2-pyrimidinyl]-N-methylmethanesulfonamide, 98%
	L10856	N-[4-Bromo-2-(trifluoromethyl)phenyl]thiourea, 98+%
	H55476	N-(4-Bromophenyl)benzenesulfonamide, 97%
	L10724	N-[4-Chloro-3-(trifluoromethyl)phenyl]thiourea, 98+%
	H33306	N-(4'-Chloro-4-biphenylsulfonyl)-beta-alanine, 96%













	H34428	N-(4'-Chloro-4-biphenylsulfonyl)-DL-alanine, 96%
	H33800	N-(4'-Chloro-4-biphenylsulfonyl)-DL-leucine, 96%
	H33004	N-(4'-Chloro-4-biphenylsulfonyl)-DL-phenylalanine, 96%
	H34474	N-(4'-Chloro-4-biphenylsulfonyl)-DL-valine, 96%
	H33029	N-(4'-Chloro-4-biphenylsulfonyl)glycine, 96%
	H34002	N-(4'-Chloro-4-biphenylsulfonyl)-S-methyl-DL-homocysteine, 95%
	H60032	N-(4-Chlorophenyl)benzenesulfonamide, 97%
	H55847	N-(4-Fluorophenyl)benzenesulfonamide, 97%
	H32459	N-(4'-Methoxy-4-biphenylsulfonyl)-beta-alanine, 96%
	H32299	N-(4'-Methoxy-4-biphenylsulfonyl)glycine, 96%
	H32750	N-(4'-Methoxy-4-biphenylsulfonyl)leucine, 96%, mixture of enantiomers
	H32511	N-(4'-Methoxy-4-biphenylsulfonyl)-L-phenylalanine, 96%
	H32521	N-(4'-Methoxy-4-biphenylsulfonyl)-L-valine, 96%
	H32855	N-(4'-Methoxy-4-biphenylsulfonyl)-S-methyl-DL-homocysteine, 96%
	H58481	N-(4-Methoxybenzyl)-4-nitrobenzenesulfonamide, 97%
	H57999	N-(4-Methoxybenzyl)-4-(trifluoromethyl)benzenesulfonamide, 97%
	H58131	N-(4-Methoxyphenyl)-3-nitrobenzenesulfonamide, 97%
	H66240	Nalpha-Benzyloxycarbonyl-Nomega-(4-methoxybenzenesulfonyl)-L-arginine dicyclohexylammonium salt, 95%



	H62148	Nalpha-Boc-Nomega-(2,2,4,6,7-pentamethyl-2,3-dihydrobenzo[b]furan-5-sulfonyl)-L-arginine, 96%
	H62997	Nalpha-Boc-Nomega-(2,2,4,6,7-pentamethyl-2,3-dihydrobenzo[b]furan-5-ylsulfonyl)-D-arginine, 95%
	H62515	Nalpha-Boc-Nomega-(4-methoxy-2,3,6-trimethylphenylsulfonyl)-L-arginine, 98%
	H59039	Nalpha-Fmoc-Nomega-(2,2,4,6,7-pentamethyl-2,3-dihydrobenzo[b]furan-5-ylsulfonyl)-L-arginine, 98%
	H52115	Nalpha-Fmoc-Nomega-(2,2,4,6,7-pentamethyl-2,3-dihydrobenzo[b]furan-5-ylsulfonyl)-L-beta-homoarginine, 95%
	H66194	Nalpha-Fmoc-Nomega-(4-methoxy-2,3,6-trimethylphenylsulfonyl)-D-arginine, 95%
	H63907	Nalpha-Fmoc-Nomega-(4-methoxy-2,3,6-trimethylphenylsulfonyl)-L-arginine, 95%
	H66351	Nalpha-Fmoc-Nomega-(p-toluenesulfonyl)-L-arginine, 95%
	H63287	Nalpha-p-Toluenesulfonyl-L-arginine, 98%
	L09164	Naphthalene-2-sulfonamide, 97%
	H56585	N-Benzyl-4-bromobenzenesulfonamide, 97%
	H55588	N-(Benzyl)benzenesulfonamide, 97%
	L16705	N-Benzyltrifluoromethanesulfonamide, 97%
	H59770	N-Boc-1-(p-toluenesulfonyl)-L-histidine, 98%
	H62205	N-Boc-1-(p-toluenesulfonyl)-L-histidine dicyclohexylammonium salt, 98%
	H53428	n-Butyrophenone p-toluenesulfonylhydrazone, 97%
	H58673	N-Cyclopropyl-4-nitrobenzenesulfonamide, 97%
	H61905	N-Ethyl-4-methylbenzenesulfonamide, 98%

	L13955	N-Fluorobenzenesulfonimide, 97%
	H55893	N-Isopropyl-4-methylbenzenesulfonamide, 97%
	H56727	N-Isopropyl-4-nitrobenzenesulfonamide, 97%
	H25795	N-Methyl-4-nitro-alpha-toluenesulfonamide, 98%
	H55666	N-Methylbenzenesulfonamide, 97%
	L05296	N,N-Bis(2-chloroethyl)-p-toluenesulfonamide, tech. 90%
	L13394	N,N-Dibutylbenzenesulfonamide, 97%
	H55053	N,N-Diethyl-4-methylbenzenesulfonamide, 97%
	A14454	N,N-Dimethylmethanesulfonamide, 98+%
	L09133	N,N,N',N'-Tetramethylsulfonamide, 98%
	H63697	Nomega-(4-Methoxy-2,3,6-trimethylphenylsulfonyl)-L-arginine monohydrate, 95%
	H55189	N-Phenylbenzenesulfonamide, 97%
	L12531	N-Phenylbis(trifluoromethanesulfonimide), 99%
	H53371	N-(p-Toluenesulfonyl)glycine, 97%

	B21745	N-p-Toluenesulfonylimino-3,3'-dipropionic acid, 98%
	H65065	N-(p-Toluenesulfonyl)-L-glutamic acid, 97%
	H55126	N-tert-Butyl-4-methylbenzenesulfonamide, 97%
	H58068	N-tert-Butyl-4-nitrobenzenesulfonamide, 97%
	H66902	N-Toluenesulfonyl-L-proline, 94%
	B20544	o-Toluenesulfonamide, 98%
	H53299	Potassium 3-(methylsulfonylamino)phenyltrifluoroborate, 96%
	B20010	Probenecid, 98%
	H53409	Propionophenone p-toluenesulfonylhydrazone, 97%
	A12156	p-Toluenesulfonamide, 98+%
	H55564	p-Toluenesulfonanilide, 97%
	H61949	p-Toluenesulfonyl semicarbazide, 95%
	H33177	(R,R)-N-(2,4,6-Triisopropylbenzenesulfonyl)-1,2-diphenylethanediamine, 98%
	H37887	(R,R)-N-(2,4,6-Trimethylbenzenesulfonyl)-1,2-diphenylethanediamine, 98%
	H50829	(S)-1-(Phenylsulfonyl)pipecolic acid
	H33280	S-Methyl-N-(2,3,5,6-tetramethylphenylsulfonyl)-DL-homocysteine, 96%
	H33506	S-Methyl-N-[3-(trifluoromethyl)phenylsulfonyl]-DL-homocysteine, 96%
	L00577	S,S-Dimethyl-N-(p-toluenesulfonyl)sulfoximine, 98%

	H33303	(S,S)-N-(2,4,6-Triisopropylbenzenesulfonyl)-1,2-diphenylethanediamine, 98%
	A19836	Sulfacetamide, 98%
	B22426	Sulfacetamide sodium salt hydrate, 99%
	A12370	Sulfadiazine, 98%
	L04194	Sulfamerazine, 98+%
	A19276	Sulfamethazine, 99%
	A13001	Sulfanilamide, 98%
	A10727	Sulfathiazole, 98+%
	H37492	Tirofiban hydrochloride monohydrate, 98%
	B21698	Tolbutamide, 98%
	B22112	Trifluoromethanesulfonamide, 96%
	H53392	Valerophenone p-toluenesulfonylhydrazone, 97%

## Sulfonic Acids & Anhydrides



Sulfonic acid forms a class of organosulfur compounds which can be thought of as sulfuric acid with one hydroxyl being substituted by an organo substituent. Thus, they are compounds bearing sulfonyl hydroxide group with the general formula  $RS(=O)_2OH$ . Due to their strongly acidic nature, they are employed as catalysts. p-Toluenesulfonic acid is as an "organic-soluble" acid catalyst that is routinely employed in organic synthesis. Polymeric sulfonic acids like Dowex resin which are derivative of polystyrene are used as catalysts and for water softening through ion-exchange. Another polymeric sulfonic acid Nafion is used in fuel cells as proton exchange membranes. Their salts are used in detergent industry as anionic surfactant. As supporting electrolytes, salts of methanesulfonic acid are extensively used in zinc-cerium and lead-acid (methanesulfonate) flow batteries.

Sulfonic anhydrides are the acid anhydrides of sulfonic acid. This may be used to generate the corresponding sulfonate esters. Methanesulfonic anhydride is employed as a reagent for aromatic alkylation. It is also known for its powerful sulfonylating ability. Methanesulfonic anhydride in DMSO is used to oxidize primary and secondary alcohols. Triflic anhydride finds use an important reagent for ester formation.

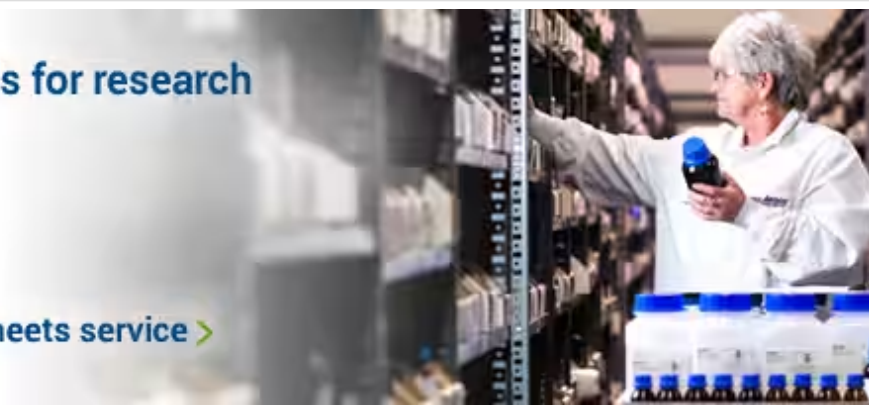
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	H60805	1-Diazo-2-naphthol-4-sulfonic acid, 76%
	B22124	1-Dimethylcarbamoyl-4-(2-sulfoethyl)pyridinium inner salt, 95%
	H26003	1H-Benzotriazole-4-sulfonic acid, 97%
	B21553	(1R)-(-)-Camphor-10-sulfonic acid, 98%
	A16179	(1S)-(+)-Camphor-10-sulfonic acid, 98+%(dry wt.), water <2%
	A18924	2-Acrylamido-2-methylpropanesulfonic acid, 98%
	B25738	2-Amino-5-chlorobenzenesulfonic acid, 97%
	B24560	2-Amino-5-methylbenzenesulfonic acid, 99%
	A18644	2-Aminonaphthalene-1-sulfonic acid, 98%
	B23381	2-Sulfobenzoic acid hydrate, 98%
	H55918	3-Aminopropane-1-sulfonic acid, 97%
	H56187	3-[Bis(2-hydroxyethyl)amino]-2-hydroxypropanesulfonic acid, 99%
	H34253	3-(Di-tert-butylphosphonium)propane sulfonate, 97%
	H64011	3-Methyl-3-(p-toluenesulfonyloxymethyl)oxetane, 98%

	B24154	3-Sulfobenzoic acid disodium salt monohydrate, 97%
	B23556	3-Sulfobenzoic acid monosodium salt, 97%
	41472	4,4'-Diaminobiphenyl-2,2'-disulfonic acid hydrate, cont. up to 30% water
	A16664	4,4'-Diaminostilbene-2,2'-disulfonic acid, 95%
	B24339	4-Amino-3-hydroxy-1-naphthalenesulfonic acid, 99%
	A19870	4-Amino-3-methylbenzenesulfonic acid, 98%
	B21467	4-Amino-4'-nitrostilbene-2,2'-disulfonic acid, tech. 80%
	B21829	4-Aminonaphthalene-1-sulfonic acid, 98%
	H59917	4-Hydroxybenzenesulfonic acid, 65%
	L20046	4-Hydroxypyridine-3-sulfonic acid, 98%
	A19432	4-Sulfobenzoic acid monopotassium salt, 95%
	L06555	5-(2-Aminoethylamino)-1-naphthalenesulfonic acid sodium salt, 97%
	A16599	5-Amino-2-methylbenzenesulfonic acid, 94%
	A11433	5-Aminonaphthalene-1-sulfonic acid, tech. 85%
	L03099	5-Aminonaphthalene-2-sulfonic acid, 97%
	A18028	5-Sulfoisophthalic acid monosodium salt, 95%
	A13461	5-Sulfosalicylic acid dihydrate, 98%
	43144	5-Sulfosalicylic acid dihydrate, ACS, 99+%
	H64602	6-Amino-7-deazapurine hydrogen sulfate, 97%

	L17616	8-Aminonaphthalene-1-sulfonic acid, 98%
	A11553	ACES, 99%
	A18836	Amidosulfonic acid, 98+%
	33233	Amidosulfonic acid, ACS, 99.3-100.3% (Assay dried basis)
	B23441	Aminomethanesulfonic acid, 97%
	B25350	Aniline-2,5-disulfonic acid, 95%
	A16148	Benzenesulfonic acid, 94%
	L19077	Benzenesulfonic acid, tech. ca 75% w/w aq. soln.
	A16092	BES, 99%
	A12620	(±)-Camphor-10-sulfonic acid, 98%
	A17037	CAPS, 99%
	B21305	CAPSO, 98%
	B25202	CAPSO sodium salt, 98%
	A18047	CHES, 99%
	43899	Dibenzofuran-2-sulfonic acid hydrate, 97%
	B24646	Dimethyl 5-sulfoisophthalate sodium salt, 98%
	L09122	DL-Homocysteic acid, 98%



	A13714	EPPS, 99%
	14891	Ethanesulfonic acid, 96%
	H60133	Glycol sulfite, 98%
	L08406	Hydroquinonesulfonic acid potassium salt, 98+%
	A12560	Hydroxylamine-O-sulfonic acid, 97%
	H61739	Isoquinoline-5-sulfonic acid, 95%
	30574	Linear alkylbenzenesulfonic acid, 97%
	A14574	Metanilic acid, 98+%
	A17803	Methanesulfonic acid, 70% aq. soln.
	A13565	Methanesulfonic acid, 98+%
	A13328	Methanesulfonic anhydride, 97%
	A12914	MOPS, 99%
	L03419	m-Toluenesulfonic acid monohydrate, 97%
	41715	Naphthalene-1,3,6-trisulfonic acid trisodium salt hydrate
	H56685	Naphthalene-2-sulfonic acid, 98%
	43806	Poly(2-methylaniline), emeraldine salt from p-toluenesulfonic acid
	36506	p-Toluenesulfonic acid monohydrate, 97%
	44002	p-Toluenesulfonic acid monohydrate, ACS, 98.5+%

	L00160	p-Toluenesulfonic anhydride, 97%
	A13101	Pyridine-3-sulfonic acid, 98+%
	L06640	Quinoline-8-sulfonic acid, 98%
	A15825	Sulfanilic acid, 98+%
	A12403	Taurine, 99%
	B21819	TES, 99%
	A10173	Trifluoromethanesulfonic acid, 98+%
	A11767	Trifluoromethanesulfonic anhydride, 98%

# Thioureas



"Thioureas" refers to a broad class of organo sulfur compounds of the formula  $S=C(NH_2)_2$ . Thioureas have been widely used in Organic and Medicinal Chemistry as precursors for the synthesis of a huge number of heterocycles. For instance, thioureas are efficient partners for the synthesis of pyrimidine and aminothiazole derivatives. As organocatalysts, thioureas, through double hydrogen-bonding interactions with respective substrates, have efficiently accelerated and stereochemically altered organic transformations. In organic synthesis, thiourea is employed as a reagent to reduce peroxides to the respective diols and in the reductive work-up of ozonide formed during ozonolysis. They serve as a source of sulfide, for instance, in the conversion of alkyl halides to thiols or conversion of soft metal ions to their corresponding sulfides.

Industrially, thioureas are extensively used as accelerators of in the vulcanization process and in the production of flame retardant resins. They also find use in all types of copy paper including light sensitive photocopy paper. A lixiviant formed by selectively oxidizing thiourea is used for leaching gold and silver, circumventing the steps of cyanide use and smelting. In the field of pharmaceuticals, thioureas are used as precursors for the preparation of thiobarbituric acids and sulfathiazoles. They are also used as textile-treating agents and as precursors for certain dyes and drugs.

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	A16667	2,5-Dithiobiurea, 97%
	H33681	2-Pyrimidinylthiourea, 97+%
	H33090	(4-Methoxy-6-methyl-2-pyrimidinyl)thiourea, 97+%
	H34335	(6-Nitro-2-benzothiazolyl)thiourea, 97+%
	A16175	Dithiobiuret, 97%
	A19024	N-(1-Naphthyl)thiourea, 97%
	L10843	N-[2-(2-Pyridyl)ethy]thiourea, 98+%
	L11323	N-(2,3-Dimethylphenyl)thiourea, 98%
	H27458	N-(2,4,6-Trichlorophenyl)thiourea, 97%
	A12083	N-(2,4,6-Trimethylphenyl)thiourea, 99%
	L11314	N-(2,4-Dichlorophenyl)thiourea, 98+%
	A16945	N-(2,4-Difluorophenyl)thiourea, 97%
	L09646	N-(2,4-Dimethoxyphenyl)thiourea, 99%
	L12206	N-(2,4-Dimethylphenyl)thiourea, 98%















	L11984	N-(2,5-Dichlorophenyl)thiourea, 97%
	L12223	N-(2,5-Difluorophenyl)thiourea, 97%
	L11454	N-(2,5-Dimethoxyphenyl)thiourea, 99%
	H33664	N-(2,6-Dibromo-3-pyridyl)thiourea, 97+%
	H33144	N-(2,6-Dichloro-3-pyridyl)thiourea, 98+%
	A18117	N-(2,6-Dichlorophenyl)thiourea, 99%
	L12998	N-(2,6-Dimethylphenyl)thiourea, 99%
	L11774	N-(2-Bromo-4-methylphenyl)thiourea, 98%
	L10098	N-(2-Bromophenyl)thiourea, 98%
	H33261	N-(2-Chloro-4-pyridyl)thiourea, 98+%
	B22248	N-[2-Chloro-5-(trifluoromethyl)phenyl]thiourea, 97%
	L05711	N-(2-Chlorophenyl)thiourea, 98%
	B20883	N-(2-Fluorophenyl)thiourea, 97%
	L10519	N-(2-Hydroxyphenyl)thiourea, 97%
	L12101	N-(2-Methoxy-5-methylphenyl)thiourea, 99%
	L11840	N-(2-Methoxyphenyl)thiourea, 94%
	L12158	N-(2-Nitrophenyl)thiourea, 98+%
	L10520	N-(2-Phenylethyl)thiourea, 97%
	L11465	N-(2-Pyridyl)thiourea, 98%










	L09377	N-[2-(Trifluoromethyl)phenyl]thiourea, 98%
	L07958	N-(3,4-Dichlorophenyl)thiourea, 98+%
	B20245	N-[3,5-Bis(trifluoromethyl)phenyl]thiourea, 98+%
	H33587	N-(3,5-Dibromo-2-pyridyl)thiourea, 97%
	H34014	N-(3,5-Dibromo-6-methyl-2-pyridyl)thiourea, 97%
	H34120	N-(3,5-Dichloro-2-pyridyl)thiourea, 97%
	A16558	N-(3,5-Dichlorophenyl)thiourea, 98+%
	L12806	N-(3,5-Dimethylphenyl)thiourea, 99%
	H33465	N-(3-Bromo-2-pyridyl)thiourea, 97%
	H33580	N-(3-Bromo-5-methyl-2-pyridyl)thiourea, 98+%
	H34440	N-(3-Chloro-5-trifluoromethyl-2-pyridyl)thiourea, 97%
	L07123	N-(3-Chlorophenyl)thiourea, 98%
	L09538	N-(3-Fluorophenyl)thiourea, 99%
	L09975	N-(3-Hydroxyphenyl)thiourea, 97%
	H33346	N-(3-Methyl-2-pyridyl)thiourea, 97%
	L01284	N-(3-Pyridyl)thiourea, 98+%
	L10444	N-[3-(Trifluoromethyl)phenyl]thiourea, 97%

	H33661	N-(4,6-Dimethyl-2-pyridyl)thiourea, 97%
	L11872	N-(4-Acetylphenyl)thiourea, 98%
	L09619	N-(4-Bromo-2-methylphenyl)thiourea, 98%
	L13047	N-(4-Carboxyphenyl)thiourea, 97%
	H33291	N-(4-Chloro-2-pyridyl)thiourea, 97%
	A12651	N-(4-Chlorophenyl)thiourea, 98%
	L12219	N-(4-Cyanophenyl)thiourea, 98%
	L11159	N-(4-Fluorophenyl)thiourea, 99%
	L12537	N-(4-Hydroxyphenyl)thiourea, 98+%
	L00739	N-(4-Methoxyphenyl)thiourea, 96%
	H33648	N-(4-Methyl-2-pyridyl)thiourea, 97%
	L09331	N-(4-Nitrophenyl)thiourea, 98%
	L11804	N-(4-Phenoxyphenyl)thiourea, 96%
	L09925	N-(4-Pyridyl)thiourea, 98%
	L12355	N-[4-(Trifluoromethyl)phenyl]thiourea, 98%
	H34088	N-(5-Bromo-2-pyridyl)thiourea, 97%
	H33021	N-(5-Bromo-3-methyl-2-pyridyl)thiourea, 97%
	H34079	N-(5-Bromo-6-methyl-2-pyridyl)thiourea, 97%

	A13557	N-(5-Chloro-2-methoxyphenyl)thiourea, 98%
	H33063	N-(5-Chloro-2-pyridyl)thiourea, 97%
	B20423	N-(5-Fluoro-2-methylphenyl)thiourea, 97%
	H33831	N-(5-Fluoro-2-pyridyl)thiourea, 97%
	H34009	N-(5-Iodo-2-pyridyl)thiourea, 97%
	H34378	N-(5-Methyl-2-pyridyl)thiourea, 97%
	H33731	N-(5-Trifluoromethyl-2-pyridyl)thiourea, 97%
	H34220	N-(6-Bromo-2-pyridyl)thiourea, 97%
	H34038	N-(6-Bromo-3-pyridyl)thiourea, 97+%
	H33343	N-(6-Chloro-2-pyridyl)thiourea, 97%
	H33053	N-(6-Chloro-3-pyridyl)thiourea, 97+%
	H33009	N-(6-Methoxy-3-pyridyl)thiourea, 97%
	H33884	N-(6-Methyl-2-pyridyl)thiourea, 97%
	47008	N-Acetylthiourea, 98%
	A18161	N-Allyl-N'-(2-hydroxyethyl)thiourea, 97%
	L03377	N-Allylthiourea, 98%
	A15101	N-Amidinothiourea, 98+%
	L12377	N-Benzoylthiourea, 98%



	L09400	N-Benzylthiourea, 98%
	H63599	N-Boc-thiourea, 97%
	B24761	N-Ethylthiourea, 99%
	L12605	N-Isopropylthiourea, 97%
	B20824	N-Methyl-N-phenylthiourea, 97%
	A10437	N-Methylthiourea, 97+%
	L09654	N-(n-Butyl)thiourea, 98%
	L08648	N,N'-Diallylthiourea, 96%
	L04390	N,N'-Dibenzylthiourea, 98%
	L07785	N,N'-Dicyclohexylthiourea, 98+%
	A17143	N,N'-Diethylthiourea, 98%
	A16783	N,N'-Di-n-butylthiourea, 98%
	A17217	N,N'-Di-n-propylthiourea, 98%
	A19644	N,N'-Diphenylthiourea, 98%

	L13392	N,N,N',N'-Tetramethylthiourea, 98%
	L10149	N-(n-Propyl)thiourea, 98%
	B22350	N-(o-Tolyl)thiourea, 97+%
	L06690	N-Phenylthiourea, 97%
	A11098	N-(p-Tolyl)thiourea, 97%
	L11979	N-(tert-Butyl)thiourea, 97%
	L14232	S-(2-Aminoethyl)isothiourea dihydrobromide, 98%
	A12828	Thiourea, 99%
	36609	Thiourea, ACS, 99% min.

# Pentafluorothio Compounds



Pentafluorothio compounds, as the name indicates, are a class of organic compounds bearing  $\text{-SF}_5$  groups. The  $\text{-SF}_5$  group with a highly polarizable carbon-sulfur bond is strongly electron-withdrawing owing to five fluorine atoms on sulfur. Unsaturated pentafluorothio compounds, like vinyl sulfur pentafluoride, find utility as monomers and copolymerize with ethene or vinyl chloride resulting in flexible and more transparent polymers than normal polythene. Generally polymers containing  $\text{-SF}_5$  group are both thermally and chemically stable. Pentafluorothio groups survive drastic reagents like a strong alkali (KOH), and a strong oxidizing agent (like  $\text{ClOSO}_2\text{F}$ ).

Pentafluorothio compounds have generated considerable interests in the field of liquid crystals. Pentafluorothio compounds are usually crystalline with lower melting point and have a very strong dipole attributable to the  $\text{SF}_5$  group. In the field of pharmaceuticals, they find utility as cannabinoid receptor ligands, antineoplastic agents, and serotonin analogues.

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	H35247	2-Chloro-5-(pentafluorothio)benzaldehyde, 97%
	H33637	2-Chloro-5-(pentafluorothio)benzyl alcohol, 97%
	H34099	2-Fluoro-4-(pentafluorothio)aniline, 97%
	H34445	2-Fluoro-4-(pentafluorothio)benzaldehyde, 97%
	H33952	2-Fluoro-4-(pentafluorothio)benzamide, 97%
	H34180	2-Fluoro-4-(pentafluorothio)benzoic acid, 97%
	H33862	2-Fluoro-4-(pentafluorothio)benzotrile, 97%
	H34481	2-Fluoro-4-(pentafluorothio)benzoyl chloride, 97%
	H34288	2-Fluoro-4-(pentafluorothio)benzyl alcohol, 97%
	H33955	2-Fluoro-4-(pentafluorothio)benzylamine, 97%
	H33769	2-Fluoro-4-(pentafluorothio)benzyl bromide, 97%
	H33482	2-Fluoro-4-(pentafluorothio)cinnamic acid, 97%
	H33807	2-Fluoro-4-pentafluorothio-DL-phenylalanine, 97%
	H33834	2-Fluoro-4-(pentafluorothio)phenylacetic acid, 97%

	H34490	2-Fluoro-4-(pentafluorothio)phenylacetonitrile, 97%
	H34281	2-Fluoro-5-(pentafluorothio)aniline, 97%
	H33481	2-Fluoro-5-(pentafluorothio)benzaldehyde, 97%
	H34464	2-Fluoro-5-(pentafluorothio)benzoic acid, 97%
	H33786	2-Fluoro-5-(pentafluorothio)benzyl bromide, 97%
	H33293	2-Methoxy-5-(pentafluorothio)aniline, 97%
	H33178	2-Methoxy-5-(pentafluorothio)benzaldehyde, 97%
	H33839	2-Methoxy-5-(pentafluorothio)benzotrile, 97%
	H33245	2-Methoxy-5-(pentafluorothio)benzyl alcohol, 97%
	H34149	2-Methoxy-5-(pentafluorothio)benzylamine, 97%
	H34415	2-Methoxy-5-(pentafluorothio)benzyl bromide, 97%
	H33451	2-Methoxy-5-(pentafluorothio)phenylacetonitrile, 97%
	H33782	2-Methyl-5-(pentafluorothio)aniline, 97%
	H33735	2-Methyl-5-(pentafluorothio)benzaldehyde, 97%
	H33071	2-Methyl-5-(pentafluorothio)benzoic acid, 97%
	H33514	2-Methyl-5-(pentafluorothio)benzyl bromide, 97%
	H33765	3-Bromo-2-methyl-5-(pentafluorothio)aniline, 97%
	H34456	3-Bromo-5-(pentafluorothio)aniline, 97%
	H33640	3-Bromo-5-(pentafluorothio)benzaldehyde, 97%

	H34194	3-Bromo-5-(pentafluorothio)benzoic acid, 97%
	H34296	3-Bromo-5-(pentafluorothio)benzyl bromide, 97%
	H34278	3'-Chloro-5'-(pentafluorothio)acetophenone, 97%
	H34254	3-Chloro-5-(pentafluorothio)aniline, 97%
	H33248	3-Chloro-5-(pentafluorothio)benzaldehyde, 97%
	H33872	3-Chloro-5-(pentafluorothio)benzoic acid, 97%
	H33840	3-Chloro-5-(pentafluorothio)benzonitrile, 97%
	H33271	3-Chloro-5-(pentafluorothio)benzylamine, 97%
	H34354	3-Chloro-5-(pentafluorothio)cinnamic acid, 97%
	H33658	3-Chloro-5-(pentafluorothio)phenol, 97%
	H33896	3-Chloro-5-(pentafluorothio)phenylacetic acid, 97%
	H33526	3-Chloro-5-(pentafluorothio)phenylacetonitrile, 97%
	H33302	3'-Fluoro-5'-(pentafluorothio)acetophenone, 97%
	H33680	3-Fluoro-5-(pentafluorothio)aniline, 97%
	H33427	3-Fluoro-5-(pentafluorothio)benzaldehyde, 97%
	H33696	3-Fluoro-5-(pentafluorothio)benzamide, 97%
	H34272	3-Fluoro-5-(pentafluorothio)benzoic acid, 97%

	H33352	3-Fluoro-5-(pentafluorothio)benzotrile, 97%
	H33666	3-Fluoro-5-(pentafluorothio)benzoyl chloride, 97%
	H34173	3-Fluoro-5-(pentafluorothio)benzyl alcohol, 97%
	H34213	3-Fluoro-5-(pentafluorothio)benzylamine, 97%
	H34040	3-Fluoro-5-(pentafluorothio)benzyl bromide, 97%
	H33590	3-Fluoro-5-(pentafluorothio)cinnamic acid, 97%
	H34031	3-Fluoro-5-(pentafluorothio)phenol, 95%
	H33089	3-Fluoro-5-(pentafluorothio)phenylacetic acid, 97%
	H34276	3-Fluoro-5-(pentafluorothio)phenylacetonitrile, 97%
	H33767	3-Methyl-5-(pentafluorothio)benzaldehyde, 97%
	H34016	3-Methyl-5-(pentafluorothio)benzoic acid, 97%
	H34301	3-Methyl-5-(pentafluorothio)benzyl bromide, 97%
	H33532	3'-(Pentafluorothio)acetophenone, 97%
	H35190	3-(Pentafluorothio)aniline, 97%
	H35195	3-(Pentafluorothio)benzaldehyde, 97%
	H34421	3-(Pentafluorothio)benzamide, 97%
	H34499	3-(Pentafluorothio)benzoic acid, 97%
	H33205	3-(Pentafluorothio)benzoyl chloride, 97%

	H33906	3-(Pentafluorothio)benzyl alcohol, 97%
	H34486	3-(Pentafluorothio)benzylamine, 97%
	H33560	3-(Pentafluorothio)benzyl bromide, 97%
	H33796	3-(Pentafluorothio)cinnamic acid, 97%
	H33386	3-(Pentafluorothio)-DL-phenylalanine, 97%
	H33056	4'-(Pentafluorothio)acetophenone, 97%
	H33822	4-(Pentafluorothio)aniline, 97%
	H35537	4-(Pentafluorothio)benzotrile, 97%
	H35498	4-(Pentafluorothio)benzoyl chloride, 97%
	H34397	4-(Pentafluorothio)benzyl alcohol, 97%
	H33959	4-(Pentafluorothio)benzylamine, 97%
	H34263	4-(Pentafluorothio)benzyl bromide, 97%
	H33034	4-(Pentafluorothio)cinnamic acid, 97%
	H33772	4-Pentafluorothio-DL-phenylalanine, 97%
	H33413	4-(Pentafluorothio)phenol, 97%
	H33966	4-(Pentafluorothio)phenylacetic acid, 97%
	H33667	4-(Pentafluorothio)phenylacetonitrile, 97%
	B22323	Pentafluorothiophenol, 97%



# Sulfonate Esters



Sulfonate esters refer to a class of compounds that are esters of sulfonic acid bearing the functional group  $R-SO_2O-$ , where R is any organic moiety connected through carbon. These esters are a good leaving group for  $S_N1$ ,  $S_N2$ ,  $E1$  and  $E2$  reactions, and sulfonate esters also find use as reagents in organic synthesis. Sulfonate esters allow the sulfonate group to function as an even better leaving group than chlorine and bromine.

Triflates such as methyl triflate are used as methylating agents. Cyclic sulfonic esters called sultones are strong alkylating agents while simultaneously introducing a negatively charged sulfonate group. In the nucleoside field, 2-arylethanesulfonic esters are used as 2'-hydroxy protecting groups. Sulfonate esters are used to improve water solubility for protein cross linkers such as N-hydroxysulfosuccinimide. Methyl ester sulfonates are used as good surfactants. Sulfonic esters act as catalysts for cross-linking of polymers having hydroxyl, carboxyl, and amide functionality. Such polymeric film coatings give superior hardness, impact resistance, adhesion, improved blister resistance, salt spray characteristics, and flexibility. Sulfonic esters are also found to be effective in coil primer formulations containing calcium ion.

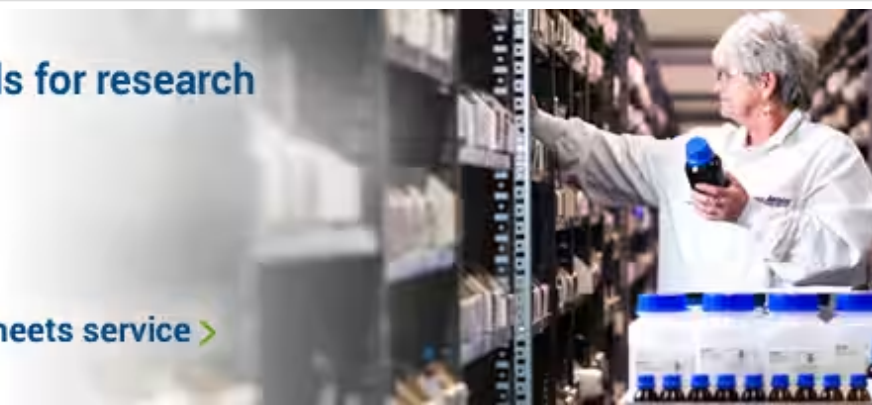
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	L10864	1,1,1,3,3,3-Hexafluoroisopropyl p-toluenesulfonate, 97%
	H51087	(±)-1,1'-Bi(2-naphthyl) dimethanesulfonate, 97%
	H61782	1-[2-(2,4-Difluorophenyl)-2,3-epoxypropyl]-1H-1,2,4-triazole methanesulfonate, 98%
	B21084	1,3-Propanediol di-p-toluenesulfonate, 98%
	H57822	1-Benzhydryl-3-azetidiny methanesulfonate, 95%
	H33929	1-Boc-4-(p-toluenesulfonyloxymethyl)piperidine, 96%
	H59726	1-Ethyl-2,3-dimethylimidazolium trifluoromethanesulfonate, 98%
	H27232	1-Ethyl-3-methylimidazolium hydrogen sulfate, 98%
	L19764	1-Ethyl-3-methylimidazolium trifluoromethanesulfonate, 98+%
	H59599	1-Methyl-3-n-octylimidazolium trifluoromethanesulfonate, 97%
	H55091	1-Naphthyl trifluoromethanesulfonate, 97%
	H27336	1-n-Butyl-3-methylimidazolium methanesulfonate, 99%
	L19765	1-n-Butyl-3-methylimidazolium trifluoromethanesulfonate, 98%
	H59210	1-n-Hexyl-3-methylimidazolium trifluoromethanesulfonate, 95%












	A17871	2,2,2-Trifluoroethyl p-toluenesulfonate, 98+%
	L08635	2,2,2-Trifluoroethyl trichloromethanesulfonate, 94%
	H61603	2,2,2-Trifluoroethyl trifluoromethanesulfonate, 95%
	B21989	2,4,5-Triamino-6-hydroxypyrimidine sulfate, 94%
	H55218	2,4,6-Trimethylpyridinium p-toluenesulfonate, 98%
	L07388	2,5-Diaminotoluene sulfate, 97%
	L16304	2,6-Di-tert-butyl-4-methylpyrylium trifluoromethanesulfonate, 95%
	H25999	2-Aminoimidazole sulfate, 98%
	A11863	2-Chloroethyl p-toluenesulfonate, 97%
	L11088	2-Fluoro-1-methylpyridinium p-toluenesulfonate, tech. 90%
	L12916	2-Indanyl p-toluenesulfonate, 98+%
	H55417	2-Naphthyl trifluoromethanesulfonate, 97%
	H56000	(2S)-(+)-Glycidyl p-toluenesulfonate, 99%
	H54132	3-(Benzyloxysulfonyl)benzeneboronic acid, 97%
	L11166	3-Butynyl p-toluenesulfonate, 96%
	H57569	3-Oxetanyl p-toluenesulfonate, 96%
	L17481	4-Nitrophenyl trifluoromethanesulfonate, 99%
	H34026	4-Tetrahydropyranyl methanesulfonate, 95%
	L20441	6-Methyl-3-pyridyl trifluoromethanesulfonate, 96%

	B20785	Aluminum trifluoromethanesulfonate, 99%
	A10236	Atropine sulfate monohydrate, 97+%
	A16197	Barium diphenylamine-4-sulfonate
	H55188	Bis(4-tert-butylphenyl)iodonium p-toluenesulfonate, Electronic grade, 99+% (metals basis)
	L12701	Chloroacetaldehyde sodium bisulfite hydrate, 98% (dry wt.), water ca 5-6%
	L17952	Cyclohexyl p-toluenesulfonate, 97%
	A12938	Ethyl methanesulfonate, 99%
	H55470	Ethyl O-(2-mesitylenesulfonyl)acetohydroxamate, 98+%
	B24658	Ethyl p-toluenesulfonate, 98%
	L03383	Ethyl trifluoromethanesulfonate, 98+%
	A16194	Formaldehyde sodium bisulfite, 95%
	A11885	Formamidinesulfinic acid, 98%
	H64289	Glycidyl (S)-(+)-3-nitrobenzenesulfonate, 98%
	H56016	Glycine benzyl ester p-toluenesulfonate salt, 99%
	H60034	Iron(III) trifluoromethanesulfonate, tech. 90%
	A12054	Isethionic acid sodium salt, 98%
	B20080	Isobutyl p-toluenesulfonate, 97%

	A17326	Lobeline sulfate, 99%
	B24515	Methyl benzenesulfonate, 98%
	H55120	Methyl methanesulfonate, 99%
	A10881	Methyl p-toluenesulfonate, 98%
	H61758	Methyl trifluoromethanesulfonate, 97%
	L14324	N-Fluoropyridinium trifluoromethanesulfonate, 95%
	H52795	N-Hydroxysulfosuccinimide sodium salt, 97%
	H60878	Nickel(II) trifluoromethanesulfonate, 96%
	L12072	N-Methylpyridinium-4-carboxaldehyde benzenesulfonate hydrate, 97%
	H56718	Phenazine methosulfate, 98+%
	H55995	Phenyl methanesulfonate, 98%
	39505	Potassium methanesulfonate, 99%
	L12075	Propargyl p-toluenesulfonate, 97%
	A15708	Pyridinium p-toluenesulfonate, 98+%
	H55659	Pyridinium trifluoromethanesulfonate, 97%
	A17036	Quinine hemisulfate monohydrate, 98+%
	H60401	(R)-(-)-1,1'-Bi(2-naphthol) bis(trifluoromethanesulfonate), 97%

	L13869	(R)-(-)-2-Hydroxy-2-phenylethyl p-toluenesulfonate, 98+%
	H52410	(R)-2-Methylpyrrolidine p-toluenesulfonate, 97%
	H52729	(S)-2-Methylpyrrolidine p-toluenesulfonate, 97%
	A12654	Sodium 1-butanesulfonate, 99%
	A14638	Sodium 1-decanesulfonate, 99%
	H36590	Sodium 1-dodecanesulfonate, 98%
	A12829	Sodium 1-dodecanesulfonate, 99%
	A10917	Sodium 1-heptanesulfonate, 99% (dry wt.), water <2%
	B20382	Sodium 1-hexadecanesulfonate, 97%
	A13278	Sodium 1-hexanesulfonate, 99%
	L06407	Sodium 1-nonanesulfonate, 98+%
	A14292	Sodium 1-octanesulfonate, 99%
	B20699	Sodium 1-pentanesulfonate, 99% (dry wt.), water <1.5%
	B22210	Sodium 1-propanesulfonate, 99%
	B21941	Sodium 1-tetradecyl sulfate, 95%, cont. up to ca 5% sodium methyl sulfate
	B20332	Sodium 1-undecanesulfonate, 98+% (dry wt.), water <2%
	A15076	Sodium 2-bromoethanesulfonate, 98%
	A19995	Sodium 2-chloroethanesulfonate hydrate, 98+% (dry wt.), water <10%

	L13347	Sodium 2-dibenzofuransulfonate hydrate, 98+%
	A19930	Sodium 3-bromopropanesulfonate, 97%
	L14018	Sodium 3-chloro-2-hydroxypropanesulfonate hemihydrate, 98%
	A10244	Sodium 3-nitrobenzenesulfonate, 98%, water <2%
	A14808	Sodium 4-hydroxybenzenesulfonate dihydrate, 97%
	L07819	Sodium 4-n-octylbenzenesulfonate, 98%, water less than 4%
	A18666	Sodium cyclamate, 98%
	42809	Sodium diphenylamine-4-sulfonate, 0.005M solution in water
	A19768	Sodium diphenylamine-4-sulfonate, 98%
	41714	Sodium diphenylamine-4-sulfonate, ACS
	B22439	Sodium methanesulfonate, 98%
	A16299	Sodium n-decyl sulfate, 98%
	A11183	Sodium n-dodecyl sulfate, 99% (dry wt.), water <2%
	B22104	Sodium n-heptyl sulfate, 99% (dry wt.), water <2%
	L06402	Sodium n-hexadecyl sulfate, 99%

	L06418	Sodium n-nonyl sulfate, 99%
	A15042	Sodium n-octadecyl sulfate, 98% (dry wt.), water <7%
	B22089	Sodium n-tridecyl sulfate, 99%, may cont. up to ca 5% water and residual solvent
	B20776	Sodium trifluoromethanesulfonate, 98%
	L15356	Sodium vinylsulfonate, tech. ca 25% aq. soln.
	A12174	tert-Butyldimethylsilyl trifluoromethanesulfonate, 98%
	A11013	Tetra-n-butylammonium trifluoromethanesulfonate, 99%
	H59773	Tin(II) methanesulfonate, 50% w/w aq. soln.
	L14477	Triethylsilyl trifluoromethanesulfonate, 98%
	B21127	Triisopropylsilyl trifluoromethanesulfonate, 97%
	A12535	Trimethylsilyl trifluoromethanesulfonate, 99%



# Sulfonyl Halides



Sulfonyl halides are a class of organic compounds in which a sulfonyl functional group is singly bonded to a halogen atom. These compounds readily react with other nucleophiles and hence they are useful laboratory, as well as, industrial reagents. Synthesis of sulfones by Friedel crafts reaction, reaction with amines to form sulfonamides, desulfonation of arylsulfonyl chlorides to form aryl chlorides are some of the chemical applications of sulfonyl halides. Sulfonyl halides are used in the preparation of sulfonate esters that are good leaving groups in organic synthesis.

Chiral sulfonyl chlorides find use as chiral derivatizing agents in the determination of the enantiomeric excess of alcohols and amines. Azo-chromophore bearing sulfonyl chlorides are known to be of use in instant photography as precursors. Sulfonyl chlorides, as efficient partners for arylation, have received considerable attention in coupling reactions including, but not limited to, Stille coupling, Suzuki coupling, and Sonogashira coupling. In recent years, sulfonyl chlorides have been shown to be efficient initiators of transition metal-catalyzed atom transfer radical polymerization.

They are widely used as important intermediates in the synthesis of dyes and pigments. They are also often employed as important drug intermediates. In medicinal chemistry, sulfonyl chlorides hold a unique position due to their ability to form complex biologically active sulfonamides with heterocyclic amines.



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	H50375	1,2-Benzenedisulfonyl chloride
	B24044	1,3-Benzenedisulfonyl chloride, 97%
	H54755	1,3-Benzodioxole-5-sulfonyl chloride, 95%
	H31670	1,4-Benzodioxane-6-sulfonyl chloride
	H33424	1-(4-Trifluoromethyl-2-pyrimidinyl)-1H-pyrazole-4-sulfonyl chloride, 95%
	H34430	1-(5-Trifluoromethyl-2-pyridyl)-1H-pyrazole-4-sulfonyl chloride, 95%
	H34044	1-Acetylidoline-5-sulfonyl chloride, 97%
	A18295	1-Butanesulfonyl chloride, 98%
	L06642	1-Decanesulfonyl chloride, 98%
	L01224	1-Dodecanesulfonyl chloride, 97%
	A14396	1-Hexadecanesulfonyl chloride, 97+%
	H54785	1-Methyl-1H-pyrazole-4-sulfonyl chloride, 97%
	L02406	1-Octadecanesulfonyl chloride, 95%
	A15440	1-Octanesulfonyl chloride, 97%

















	H60747	1-Propanesulfonyl chloride, 97%
	L14145	(1R)-(-)-Camphor-10-sulfonyl chloride, 97%
	A13293	(1S)-(+)-Camphor-10-sulfonyl chloride, 97%
	H50377	2,1,3-Benzothiadiazole-4-sulfonyl chloride, 97%
	H27119	2,2-Difluoro-2-(fluorosulfonyl)acetic acid, 94%
	A17676	2,3,4,5,6-Pentafluorobenzenesulfonyl chloride, 98+%
	A15865	2,3,4-Trichlorobenzenesulfonyl chloride, 95%
	L19508	2,3,4-Trifluorobenzenesulfonyl chloride, 97%
	A13313	2,3,5,6-Tetramethylbenzenesulfonyl chloride, 98%
	H32331	2,3,5-Trifluorobenzenesulfonyl chloride, 97%
	H32026	2,3,6-Trifluorobenzenesulfonyl chloride, 97%
	A12283	2,3-Dichlorobenzenesulfonyl chloride, 98%
	H33579	2,3-Dihydrobenzo[b]furan-5-sulfonyl chloride, 97%
	A19390	2,4,5-Trichlorobenzenesulfonyl chloride, 98%
	L19904	2,4,5-Trifluorobenzenesulfonyl chloride, 97%
	L10403	2,4,6-Trichlorobenzenesulfonyl chloride, 97%
	H32746	2,4,6-Trifluorobenzenesulfonyl chloride, 97%
	A11458	2,4,6-Triisopropylbenzenesulfonyl chloride, 98%
	L19887	2,4-Dibromobenzenesulfonyl chloride, 98%

	A19718	2,4-Dichloro-5-methylbenzenesulfonyl chloride, 97%
	A11259	2,4-Dichlorobenzenesulfonyl chloride, 98%
	A14639	2,4-Difluorobenzenesulfonyl chloride, 98%
	H50301	2,4-Dimethylbenzenesulfonyl chloride, 98%
	H54578	2,4-Dimethylthiazole-5-sulfonyl chloride, 97%
	B23035	2,4-Dinitrobenzenesulfonyl chloride, 98%
	H54410	2,4-Dioxo-1,2,3,4-tetrahydropyrimidine-5-sulfonyl chloride, 97%
	H54833	2,4-Dioxo-1,2,3,4-tetrahydroquinazoline-6-sulfonyl chloride, 97%
	L19878	2,5-Bis(trifluoromethyl)benzenesulfonyl chloride, 97%
	A13544	2,5-Dibromo-3,6-difluorobenzenesulfonyl chloride, 97%
	L19888	2,5-Dibromobenzenesulfonyl chloride, 99%
	A14805	2,5-Dichlorobenzenesulfonyl chloride, 98%
	L06461	2,5-Dichlorothiophene-3-sulfonyl chloride, 97%
	L19890	2,5-Difluorobenzenesulfonyl chloride, 98%
	A11288	2,5-Dimethoxybenzenesulfonyl chloride, 98%
	44826	2,5-Dimethylbenzenesulfonyl chloride, 98%
	A15615	2,6-Dichlorobenzenesulfonyl chloride, 97%


















	A13595	2,6-Difluorobenzenesulfonyl chloride, 97%
	L19509	2-Bromo-4,6-difluorobenzenesulfonyl chloride, 97%
	L19713	2-Bromo-4-fluorobenzenesulfonyl chloride, 97%
	L19712	2-Bromo-4-(trifluoromethyl)benzenesulfonyl chloride, 97%
	H26176	2-Bromo-5-(trifluoromethyl)benzenesulfonyl chloride, 97%
	A13645	2-Bromobenzenesulfonyl chloride, 98%
	H50379	2-Chloro-4-cyanobenzenesulfonyl chloride, 95%
	A10536	2-Chloro-4-fluorobenzenesulfonyl chloride, 98%
	L19105	2-Chloro-4-(trifluoromethyl)benzenesulfonyl chloride, 97%
	B20476	2-Chloro-5-(trifluoromethyl)benzenesulfonyl chloride, 97%
	L07629	2-Chloro-6-methylbenzenesulfonyl chloride, 98%
	A14054	2-Chlorobenzenesulfonyl chloride, 98%
	A15377	2-Chloroethanesulfonyl chloride, 98%
	A16042	2-Cyanobenzenesulfonyl chloride, 97%
	H34325	2-Ethoxybenzenesulfonyl chloride, 96%
	B25264	2-Fluoro-5-methylbenzenesulfonyl chloride, 97%
	H26687	2-Fluoro-5-(trifluoromethyl)benzenesulfonyl chloride, 97%
	A14181	2-Fluorobenzenesulfonyl chloride, 98%















	L19902	2-Methoxy-4-nitrobenzenesulfonyl chloride, 97%
	H34455	2-Methoxybenzenesulfonyl chloride, 95%
	A14760	2-Methyl-5-nitrobenzenesulfonyl chloride, 97%
	H34468	2-Methyl-6-(trifluoromethyl)pyridine-3-sulfonyl chloride, 97%
	L19238	2-Nitro-4-(trifluoromethyl)benzenesulfonyl chloride, 98%
	B23627	2-Nitrobenzenesulfonyl chloride, 97%
	B21522	2-Nitrobenzenesulfonyl chloride, 97%
	H50382	2-(Phthalimido)ethanesulfonyl chloride, 97%
	L02431	2-Propanesulfonyl chloride, 97%
	L13587	2-Trifluoroacetyl-1,2,3,4-tetrahydroisoquinoline-7-sulfonyl chloride, 99%
	A10707	2-(Trifluoromethoxy)benzenesulfonyl chloride, 97%
	A14108	2-(Trifluoromethyl)benzenesulfonyl chloride, 98%
	H25856	3,3,3-Trifluoro-1-propanesulfonyl chloride, 95%
	L19905	3,4,5-Trifluorobenzenesulfonyl chloride, 98%
	H50384	3-(4-Chlorosulfonylphenyl)propionic acid, 99%
	A14576	3,4-Dichlorobenzenesulfonyl chloride, 98%
	L17816	3,4-Difluorobenzenesulfonyl chloride, 97%
	A15263	3,4-Dimethoxybenzenesulfonyl chloride, 98%

	B24806	3,4-Dimethylbenzenesulfonyl chloride, 98%
	A10300	3,5-Bis(trifluoromethyl)benzenesulfonyl chloride, 97%
	L12147	3,5-Dichloro-2-hydroxybenzenesulfonyl chloride, 97%
	L20174	3,5-Dichloro-4-hydroxybenzenesulfonyl chloride, 97%
	H50707	3,5-Dichloro-alpha-toluenesulfonyl chloride, 96%
	A11003	3,5-Dichlorobenzenesulfonyl chloride, 97%
	H34210	3,5-Difluoro-alpha-toluenesulfonyl chloride, 95%
	L19507	3,5-Difluorobenzenesulfonyl chloride, 97%
	H54050	3,5-Dimethyl-1H-pyrazole-4-sulfonyl chloride, 97%
	L18603	3,5-Dimethylbenzenesulfonyl chloride, 97%
	B20411	3,5-Dimethylisoxazole-4-sulfonyl chloride, 98%
	H32447	3-Acetylbenzenesulfonyl chloride, 97%
	B21427	3-Amino-4-methoxybenzenesulfonyl fluoride, 97%
	L17015	3-Bromo-2-chloropyridine-5-sulfonyl chloride, 96%








	H54015	3-Bromo-4-methoxybenzenesulfonyl chloride, 97%
	L19711	3-Bromo-5-(trifluoromethyl)benzenesulfonyl chloride, 97%
	A11507	3-Bromobenzenesulfonyl chloride, 97%
	L19511	3-Chloro-2-fluorobenzenesulfonyl chloride, 97%
	A13322	3-Chloro-2-methylbenzenesulfonyl chloride, 98%
	A11222	3-Chloro-4-fluorobenzenesulfonyl chloride, 98%
	L19886	3-Chloro-4-methylbenzenesulfonyl chloride, 99%
	H26115	3-Chloro-4-nitrobenzenesulfonyl chloride, 98%
	B24073	3-Chloro-alpha-toluenesulfonyl chloride, 96%
	A10283	3-Chlorobenzenesulfonyl chloride, 98%
	A10631	3-Chloropropanesulfonyl chloride, 98+%
	L19885	3-Cyano-4-fluorobenzenesulfonyl chloride, 98%
	L20169	3-Cyanobenzenesulfonyl chloride, 97%
	H50383	3-Fluoro-4-methoxybenzenesulfonyl chloride, 98%
	L19516	3-Fluoro-4-methylbenzenesulfonyl chloride, 97%
	H31979	3-Fluoro-4-nitrobenzenesulfonyl chloride, 98%
	H26612	3-Fluoro-5-(trifluoromethyl)benzenesulfonyl chloride, 97%
	A13140	3-Fluorobenzenesulfonyl chloride, 97%


































	L17050	3-Methoxybenzenesulfonyl chloride, 97%
	H33211	3'-Methoxybiphenyl-4-sulfonyl chloride, 96%
	H34394	3'-Methylbiphenyl-4-sulfonyl chloride, 96%
	B23333	3-Nitro-alpha-toluenesulfonyl chloride, 95%
	A17670	3-Nitrobenzenesulfonyl chloride, 98%
	H33799	3-(Pentafluorothio)benzenesulfonyl chloride, 97%
	L19552	3-(Trifluoromethoxy)benzenesulfonyl chloride, 95%
	A14657	3-(Trifluoromethyl)benzenesulfonyl chloride, 98%
	H34235	3'-(Trifluoromethyl)biphenyl-4-sulfonyl chloride, 96%
	H33174	4-(1,3-Dioxo-2-azaspiro[4.4]non-2-yl)benzenesulfonyl chloride, 95%
	H26473	4-(2-Aminoethyl)benzenesulfonyl fluoride hydrochloride, 97%
	H32346	4-(2-Chlorophenoxy)benzenesulfonyl chloride, 96%
	H33123	4-(2-Methoxyphenoxy)benzenesulfonyl chloride, 96%
	H33556	4-(2-Methylphenoxy)benzenesulfonyl chloride, 96%
	H34441	4-(2-Oxo-1-pyrrolidiny)benzenesulfonyl chloride, 97%
	H34399	4-(2-Thienyl)benzenesulfonyl chloride, 96%
	H34324	4-(3-Chloro-5-trifluoromethyl-2-pyridyloxy)benzenesulfonyl chloride, 95%
	H33473	4-(3-Trifluoromethyl-2-pyridyloxy)benzenesulfonyl chloride, 97%

















	L12549	4,4'-Bis(chlorosulfonyl)diphenyl ether, tech. 90%
	H33086	4-(4-Bromo-1H-pyrazol-1-yl)benzenesulfonyl chloride, 95%
	H33480	4-(4-Trifluoromethyl-2-pyridyloxy)benzenesulfonyl chloride, 97%
	H34198	4-(4-Trifluoromethyl-2-pyrimidinyloxy)benzenesulfonyl chloride, 95%
	H34470	4,5,6,7-Tetrahydrobenzo[b]thiophene-2-sulfonyl chloride, 95%
	H33550	4-(5-Bromo-2-pyridyloxy)benzenesulfonyl chloride, 95%
	A13384	4,5-Dibromothiophene-2-sulfonyl chloride, 97%
	H33283	4-(5-Trifluoromethyl-2-pyridyloxy)benzenesulfonyl chloride, 97%
	H34169	4-(6-Trifluoromethyl-2-pyridyloxy)benzenesulfonyl chloride, 97%
	A11511	4-Acetamidobenzenesulfonyl chloride, 98+%
	H50380	4-Acetylbenzenesulfonyl chloride, 97%
	A12533	4-Bromo-2,5-dichlorothiophene-3-sulfonyl chloride, 97%
	A19634	4-Bromo-2,5-difluorobenzenesulfonyl chloride, 97%
	L19879	4-Bromo-2,6-dichlorobenzenesulfonyl chloride, 95%















	B24913	4-Bromo-2-chlorobenzenesulfonyl chloride, 96%
	B24352	4-Bromo-2-fluorobenzenesulfonyl chloride, 98%
	H31835	4-Bromo-2-methylbenzenesulfonyl chloride, 97%
	L19515	4-Bromo-2-(trifluoromethyl)benzenesulfonyl chloride, 97%
	L19710	4-Bromo-3-fluorobenzenesulfonyl chloride, 97%
	B25482	4-Bromo-3-methylbenzenesulfonyl chloride, 97%
	L19512	4-Bromo-3-(trifluoromethyl)benzenesulfonyl chloride, 97%
	A15909	4-Bromobenzenesulfonyl chloride, 98+%
	A10120	4-(Bromomethyl)benzenesulfonyl chloride, 95%
	L05247	4-Chloro-2,5-dimethylbenzenesulfonyl chloride, 98%
	L19882	4-Chloro-2-fluorobenzenesulfonyl chloride, 99%
	B21632	4-Chloro-3-nitrobenzenesulfonyl chloride, 98%
	H26017	4-Chloro-alpha-toluenesulfonyl chloride, 97%
	A10271	4-Chlorobenzenesulfonyl chloride, 97%
	H34182	4'-Chlorobiphenyl-4-sulfonyl chloride, 96%
	A14081	4-Cyanobenzenesulfonyl chloride, 97%
	H33616	4-Cyclohexylbenzenesulfonyl chloride, 97%
	L06057	4-Dimethylaminoazobenzene-4'-sulfonyl chloride, 98+%

	B24682	4-Ethylbenzenesulfonyl chloride, 97%
	L19517	4-Fluoro-2-methylbenzenesulfonyl chloride, 97%
	H26637	4-Fluoro-2-(trifluoromethyl)benzenesulfonyl chloride, 97%
	H64110	4-Fluoro-3-methylbenzenesulfonyl chloride, 97%
	H26372	4-Fluoro-3-(trifluoromethyl)benzenesulfonyl chloride, 97%
	H31605	4-Fluoro-alpha-toluenesulfonyl chloride, 97%
	L07299	4-Fluorobenzenesulfonyl chloride, 98%
	H33447	4'-Fluorobiphenyl-4-sulfonyl chloride, 95%
	B24416	4-Iodobenzenesulfonyl chloride, 97%
	L18984	4-Isopropoxybenzenesulfonyl chloride, 96%
	L10428	4-Isopropylbenzenesulfonyl chloride, 96%
	L11829	4-Methoxy-2,3,6-trimethylbenzenesulfonyl chloride, tech. 90%
	H32280	4-Methoxy-2-(trifluoromethyl)benzenesulfonyl chloride, 97%
	H32242	4-Methoxy-3-(trifluoromethyl)benzenesulfonyl chloride, 97%
	A13788	4-Methoxybenzenesulfonyl chloride, 98+%
	H31773	4'-Methoxybiphenyl-4-sulfonyl chloride, 96%
	A19931	4-Methyl-3-nitrobenzenesulfonyl chloride, 95%
	H50302	4'-Methylbiphenyl-4-sulfonyl chloride, 98%

	H50264	4-(Methylsulfonyl)benzenesulfonyl chloride, 95%
	H33732	4-Methylthiazole-5-sulfonyl chloride, 95%
	L19751	4-Morpholinylsulfur trifluoride, 95%
	L11258	4-n-Butoxybenzenesulfonyl chloride, 97%
	A16577	4-n-Butylbenzenesulfonyl chloride, 97%
	L19721	4-Nitro-3-(trifluoromethyl)benzenesulfonyl chloride, 97%
	H25794	4-Nitro-alpha-toluenesulfonyl chloride, 97%
	A18512	4-Nitrobenzenesulfonyl chloride, 97%
	A19929	4-n-Pentylbenzenesulfonyl chloride, 97%
	A18354	4-n-Propylbenzenesulfonyl chloride, 95%
	L17664	4-Phenoxybenzenesulfonyl chloride, 97%
	L11305	4-(Phenylsulfonyl)thiophene-2-sulfonyl chloride, 97%
	B22174	4-tert-Butylbenzenesulfonyl chloride, 98%
	L10894	4-tert-Pentylbenzenesulfonyl chloride, 97%

	A15467	4-(Trifluoromethoxy)benzenesulfonyl chloride, 98%
	H26395	4-Trifluoromethyl-alpha-toluenesulfonyl chloride, 97%
	A12907	4-(Trifluoromethyl)benzenesulfonyl chloride, 98%
	A14293	5-Bromo-2-methoxybenzenesulfonyl chloride, 98%
	L19514	5-Chloro-2-fluorobenzenesulfonyl chloride, 97%
	H26020	5-Chloro-2-methoxy-4-methylbenzenesulfonyl chloride, 97%
	A14362	5-Chloro-2-methoxybenzenesulfonyl chloride, 98%
	H32912	5-Chloro-2-methylbenzenesulfonyl chloride, 97%
	A11779	5-Chloro-4-nitrothiophene-2-sulfonyl chloride, 98%
	H33431	5-Chlorosulfonyl-2-fluorobenzoic acid, 97%
	H50376	5-Chlorosulfonyl-2-methoxybenzoic acid, 99%
	H50374	5-(Chlorosulfonyl)salicylic acid, 97%
	A11348	5-Chlorothiophene-2-sulfonyl chloride, 97%
	A12641	5-Fluoro-2-methylbenzenesulfonyl chloride, 97%
	H54736	5-Methylthiophene-2-sulfonyl chloride, 97%
	H33683	6-Chloroimidazo[2,1-b]thiazole-5-sulfonyl chloride, 97%
	H34033	6-(Trifluoromethyl)pyridine-3-sulfonyl chloride, 97%
	H26038	alpha-p-Xylenesulfonyl chloride, 97%

	A10124	alpha-Toluenesulfonyl chloride, 99%
	B22146	alpha-Toluenesulfonyl fluoride, 99%
	A10849	Benzenesulfonyl chloride, 98%
	L04689	Benzenesulfonyl fluoride, 98%
	H61368	Benzo[b]thiophene-3-sulfonyl chloride, 97%
	H54275	Benzofurazan-4-sulfonyl chloride, 97%
	B21031	Biphenyl-4-sulfonyl chloride, 97%
	41486	Chloromethanesulfonyl chloride, 95%
	H54767	Coumarin-6-sulfonyl chloride, 97%
	H32865	Cyclopentanesulfonyl chloride, 97%
	H29107	Cyclopropanesulfonyl chloride, 97%
	A13828	Dansyl chloride, 96%
	B23723	Ethanesulfonyl chloride, 98+%
	H54642	Imidazole-4-sulfonyl chloride, 97%
	H54462	Indane-5-sulfonyl chloride, 97%
	H64378	Isobutanesulfonyl chloride, 97%
	A11775	Mesitylene-2-sulfonyl chloride, 99%
	A13383	Methanesulfonyl chloride, 98%

	H53460	Methanesulfonyl fluoride, 98%
	H52745	Methyl 2,2-difluoro-2-(fluorosulfonyl)acetate, 97%
	H34236	Methyl 3-chlorosulfonyl-4-(isopropylsulfonyl)thiophene-2-carboxylate, 95%
	H50385	(Methylsulfonyl)methanesulfonyl chloride, 98%
	A15458	m-Toluenesulfonyl chloride, 98%
	B24250	Naphthalene-1-sulfonyl chloride, 98%
	A16872	Naphthalene-2-sulfonyl chloride, 97%
	H27437	Nonafluorobutanesulfonyl chloride, 98%
	B21322	Nonafluorobutanesulfonyl fluoride, 90+%
	L18983	o-Toluenesulfonyl chloride, 80%
	L00838	Phenyl chlorothionoformate, 98+%
	H54053	Piperidine-1-sulfonyl chloride, 97%
	A14547	p-Toluenesulfonyl chloride, 98%
	L12204	p-Toluenesulfonyl fluoride, 98%



# Sulfenyl Chlorides



Sulfenyl chlorides, R-S-Cl, are a group of organosulfur compounds having the functional group  $\text{R-S-Cl}$ , wherein R is an alkyl or an aryl group. Sulfenyl chlorides behave as a pseudohalogen and are a source of alkylthio and arylthio groups (RS-). These groups can be easily introduced by reacting sulfenyl chloride with a carbanion or its enolate, adding across double bonds in alkenes, allenes and alkynes.

Sulfenyl chlorides find use in the preparation of sulfenamides. Some sulfenyl chlorides such as tritylsulfenyl chloride and o-nitrophenylsulfenyl chloride are used as nitrogen protecting groups, for example, for amino acid esters. Such N-sulfenyl protections are important during the lengthening of peptides and are easily deprotected later.

Sulfenyl chlorides are industrially important in the modification of wool and preparation of heterocyclic compounds. In the rubber industry, sulfenyl chlorides are employed as curing agents while some sulfenyl chlorides like dichlorofluoromethanesulfenyl chloride and chlorodifluoromethanesulfenyl chloride are useful reagents in the synthesis of bioactive compounds that protect plants. Perfluoroalkane sulfenyl chlorides are an important group of chemicals used in pharmaceutical and agrochemical industries that are used to introduce perfluoroalkyl groups on to the active molecule.

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L04350 Methoxycarbonylsulfenyl chloride, 95%

# Sulfones



Sulfones are a class of sulfur containing chemical compounds bearing a sulfonyl (-SO<sub>2</sub>-) functional group that are attached to two carbon atoms, in which the sulfur is hexavalent. Sulfones have gained considerable importance in organic synthesis because they can form stabilized carbanions that are useful intermediates in organic reactions. Sulfones have been used in the synthesis of alkenes via the well-known Julia olefination and Ramberg B $\bar{c}$ klund Reaction.

Sulfolane, an industrially useful sulfone, is produced on a large scale and finds use as a solvent to extract valuable aromatic compounds from petroleum. In the field of Engineering Plastics, polymers bearing sulfones, which are made from precursor sulfones, for example, from bisphenol S and 4,4'-dichlorodiphenyl sulfone, have gained prominence as they exhibit high strength and resistance to oxidation, corrosion, and high temperatures. These polymers may sometimes be used as substitutes for copper, for example, in domestic hot water plumbing. Sulfone based electrolytes for high voltage lithium ion batteries is a fast emerging area of research. Sulfones are used in controlling the growth of fungi, algae and other microbes in the water system including, but not limited to, waste disposal systems, pulp and paper water systems, oil extraction systems and other industrial settings. In the field of pharmaceuticals, sulfones have long been used to treat diseases particularly leprosy and tuberculosis.

















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	L04083	1,2-Bis(phenylsulfonyl)ethane, 98+%
	A11923	1,3-Propanesultone, 99%
	L11427	1-(4-Chlorophenylsulfonyl)-3,3-dimethyl-2-butanone, 98+%
	A10210	1,4-Oxathiane 4,4-dioxide, 99%
	B20068	1-Methylsulfonyl-4-nitrobenzene, 97%
	H27177	1-n-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide, 98%
	H27704	(1R,2R)-N-Methylsulfonyl-1,2-diphenylethanediamine, 98+%
	A15897	(1S,2R)-(-)-10,2-Camphorsultam, 99%
	B25185	2-[2-(Phenylsulfonyl)ethylthio]nicotinic acid, 97%
	H26498	2-(2-Pyridylsulfonyl)thioacetamide, 97%
	H26263	2-(3-Trifluoromethyl-alpha-toluenesulfonyl)thioacetamide, 97%
	H26806	2-(4-Chlorophenylsulfonyl)thioacetamide, 97%
	L13711	2-Amino-5-n-propylsulfonylbenzimidazole, 98+%
	B25319	2-Chloro-4-(methylsulfonyl)benzoic acid, 96%

	A16930	2-Chloroethyl 4-fluorophenyl sulfone, 98%
	B21690	2-Chloroethyl phenyl sulfone, 98%
	L05256	2-Chloroethyl p-tolyl sulfone, 98%
	B20180	2-(Ethylsulfonyl)ethanol, 94%
	H53306	2-Fluoro-4-(methylsulfonyl)benzeneboronic acid, 98%
	H27144	2-(Methylsulfinyl)benzoic acid, 97%
	H26907	2'-(Methylsulfonyl)acetanilide, 96%
	H52445	2-(Methylsulfonyl)benzeneboronic acid, 98%
	H51018	2-(Methylsulfonyl)benzoic acid, 98%
	L03159	2-(Methylsulfonyl)ethanol, 97%
	B20940	2-(Methylsulfonyl)thiophene, 97%
	H50679	2-(Phenylsulfinyl)acetamidoxime
	L05032	2-(Phenylsulfonyl)acetophenone, 99%
	A18249	2-(p-Toluenesulfonyl)ethanol, 98%
	L07114	2-Pyridinesulfonylacetonitrile, 98%
	A13314	2-Sulfobenzoic anhydride, 94%
	H26706	2-(tert-Butylsulfonyl)thioacetamide, 97%
	L11400	3,3'-Diaminodiphenyl sulfone, 98%
	H50649	3-[(4-Methylbenzyl)sulfonyl]-1H-1,2,4-triazole



















	L12750	3-(4-Methylsulfonylbenzoyl)propionic acid, 98%
	H33764	3-[4-(Methylsulfonyl)phenyl]propionic acid, 96%
	B22987	3-(Chlorosulfonyl)benzoic acid, 96%
	H26921	3-(Methylsulfinyl)phenylacetic acid, 96%
	H52916	3-(Methylsulfonyl)benzeneboronic acid, 98%
	H50231	3-(Methylsulfonyl)benzoic acid, 98%
	L20196	3-(Phenylsulfonyl)propionitrile, 99%
	H31838	3-(Phenylsulfonyl)propylboronic acid diethanolamine ester
	A13361	3-(Phenylsulfonyl)thiophene, 98%
	A17194	4,4'-Bis(3-aminophenoxy)diphenyl sulfone, 95%
	A18976	4,4'-Diaminodiphenyl sulfone, 98%
	H27003	4,6-Dimethoxy-2-(methylsulfonyl)pyrimidine, 96%
	H64029	4,6-Dimethyl-2-(methylsulfonyl)pyrimidine, 98%
	L13513	4,6-Diphenylthieno[3,4-d]-1,3-dioxol-2-one 5,5-dioxide, 97%
	A18376	4-Acetyldiphenyl sulfone, 98%
	A11427	4-Bromophenyl methyl sulfone, 98+%
	A15429	4-Chlorophenyl methyl sulfone, 98+%


















	H27414	(4-Chlorophenylsulfonyl)acetic acid, 98%
	A14510	(4-Chlorophenylsulfonyl)acetonitrile, 98+%
	A17337	4-(Chlorosulfonyl)benzoic acid, 96%
	L17814	4-(Ethylsulfonyl)benzeneboronic acid, 98+%
	H27573	(4-Fluoro-alpha-toluenesulfonyl)acetic acid, 98+%
	A12863	4-Fluorophenyl methyl sulfone, 98%
	A19916	4-Fluorophenylsulfonylacetonitrile, 97%
	B21444	4-Methylsulfonyl-2-nitrotoluene, 99%
	H26922	4'-(Methylsulfonyl)acetanilide, 96%
	H54072	4'-(Methylsulfonyl)acetophenone, 97+%
	H64697	4-(Methylsulfonyl)aniline, 97+%
	B23202	4-(Methylsulfonyl)aniline hydrochloride, 99%
	L17720	4-(Methylsulfonyl)benzeneboronic acid, 98%
	H50264	4-(Methylsulfonyl)benzenesulfonyl chloride, 95%
	H50230	4-(Methylsulfonyl)benzoic acid, 98%
	H50241	4-(Methylsulfonyl)benzyl bromide, 97%
	H32935	4-(Methylsulfonyl)phenol, 97%
	L19504	4-(Methylsulfonyl)phenylacetic acid, 97%

	L02235	4-Methylthiomorpholine 1,1-dioxide, 97%
	H52496	4-(Neopentyloxysulfonyl)benzeneboronic acid, 98%
	L09070	4-Nitrodiphenyl sulfone, 98%
	L11305	4-(Phenylsulfonyl)thiophene-2-sulfonyl chloride, 97%
	H27538	[4-(Trifluoromethyl)phenylsulfonyl]acetonitrile, 98%
	B22907	4-(Trifluoromethylsulfonyl)benzonitrile, 97+%
	H32295	4-(Trifluoromethylsulfonyl)phenylacetic acid, 98%
	H53133	5-(Methylsulfonyl)pyridine-3-boronic acid, 98%
	L11713	5-(Phenylsulfonyl)thiophene-2-sulfonyl chloride, tech. 90%
	H25917	Albendazole sulfone
	A10401	Allyl phenyl sulfone, 98%
	A14063	Benzo[b]thiophene 1,1-dioxide, 98%
	L04233	Benzyl methyl sulfone, 98+%
	A18938	Bis(4-chlorophenyl) sulfone, 99%
	L04723	Bis(4-fluorophenyl) sulfone, 98+%
	A17342	Bis(4-hydroxyphenyl) sulfone, 99%
	B21397	Bis(4-nitrophenyl) sulfone, 95%
	H26617	Bis(p-toluenesulfonyl)methane, 97%

	L04108	Dibenzyl sulfone, 98+%
	H64760	Difluoromethyl phenyl sulfone, 95%
	B21747	Dimethyl sulfone, 98%
	L08232	Diphenyl sulfone, 99+%
	L12827	Divinyl sulfone, 97%, stab. with 0.05% hydroquinone
	B25094	DL-Methionine sulfone, 98%
	L00266	(Ethoxycarbonylmethyl)dimethylsulfonium bromide, 98%
	L05077	Ethyl methylsulfonylacetate, 97%
	A10710	Ethyl phenyl sulfone, 98+%
	B22093	Hydrochlorothiazide, 98%
	L15701	Hydroxy(tosyloxy)iodobenzene, 97%
	A17027	L-Methionine sulfone, 98+%
	B23211	Methyl 2-(chlorosulfonyl)benzoate, 94%
	B24793	Methyl 2-trifluoromethylsulfonyloxy-1-naphthoate, 98%



	H32035	Methyl (3-trifluoromethyl)benzylsulfonacetate, 98%
	L05657	Methyl 4-(methylsulfonylmethyl)benzoate, 98%
	L14978	Methyl 4-(trifluoromethoxy)phenyl sulfone, 98+%
	L08039	Methyl methylsulfonylacetate, 98+%
	A11727	Methyl phenyl sulfone, 98+%
	L03748	Methyl phenylsulfonacetate, 98%
	L13148	Methyl p-toluenesulfonacetate, 98+%
	A11531	Methyl p-tolyl sulfone, 99%
	L07598	Methylsulfonylacetic acid, 98+%
	L03421	Methylsulfonylacetone, 98+%
	L03280	Methylsulfonylacetone nitrile, 98+%
	H50385	(Methylsulfonyl)methanesulfonyl chloride, 98%
	H31877	Methylthiomethyl p-tolyl sulfone, 99%
	L01519	Methyl vinyl sulfone, 95%, stab. with 200ppm 4-tert-butylphenol
	H63033	N-Fmoc-L-methionine sulfone, 98%
	L10581	n-Hexylsulfonylacetone nitrile, 98%
	A15530	o-Benzoic sulfimide sodium salt hydrate, 99%
	L03128	Phenyl p-tolyl sulfone, 98+%

	L12741	(Phenylsulfonyl)acetamide, 98+%
	L08299	(Phenylsulfonyl)acetic acid, 97%
	A14085	Phenylsulfonylacetone, 97%
	A15427	Phenylsulfonylacetonitrile, 98%
	A18556	Phenyl trans-beta-styryl sulfone, 96%
	A14794	Phenyl vinyl sulfone, 99+%
	L02102	p-Toluenesulfonylacetic acid, 98%
	L00940	p-Toluenesulfonylacetone, 98%
	A12857	p-Toluenesulfonylacetonitrile, 98+%
	A14312	p-Toluenesulfonylmethyl isocyanide, 97%
	H27115	(S)-(-)-2-Methyl-2-propanesulfinamide, 97%
	H32505	Sulfolane, 80% w/w aq. soln.
	H60837	Tenoxicam
	L07525	tert-Butylsulfonylacetonitrile, 98%
	A13046	Thiophene-2-sulfonylacetonitrile, 97%
	H26857	Trimethylsilyl 2,2-difluoro-2-(fluorosulfonyl)acetate, 94%
	A14589	Trimethylsulfoxonium iodide, 98+%

# Sulfoxide



Sulfoxides are a class of compounds that contains a polar sulfinyl (-SO-) functionality attached to two carbon atoms. Owing to their high electrostatic aspect, sulfoxides have a high dipolar nature with a positive charge on the sulfur atom. Ignoring the lone pair of electrons, sulfoxides assume a trigonal pyramidal geometry. Chirality is associated with sulfoxides containing two different groups attached to the sulfur atom, due to the relatively high energy that is required for inversion, which makes the optical isomers stable. In Organic chemistry, sulfoxides are substrates for the Pummerer rearrangement.

Dimethyl sulfoxide is an important highly polar solvent that is miscible with water and has a low level of toxicity. DMSO has long been used industrially as a reaction solvent for the synthesis of drugs and as an important excipient in finished pharmaceutical dosage forms. DMSO has the ability to penetrate animal tissues and thus finds use as solvent for topically applied drugs and antitoxins. DMSO is also a reagent in a number of oxidation reactions like Swern oxidation and Moffat oxidation.

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	H33358	2-Fluoro-4-(methylsulfonyl)phenol, 97%
	L17865	4-(Methylsulfinyl)benzeneboronic acid, 98%
	A13280	Dimethyl sulfoxide, 99+%
	42285	Dimethyl sulfoxide-d <sub>6</sub> , 100% (Isotopic)
	42286	Dimethyl sulfoxide-d <sub>6</sub> , 100% (Isotopic), contains 0.03% v/v TMS
	36517	Dimethyl sulfoxide-d <sub>6</sub> , 99.9% (Isotopic)
	B23672	Di-n-butyl sulfoxide, 97%
	L12033	Di-n-propyl sulfite, 99%
	B22135	Diphenyl sulfoxide, 98+%
	A18081	DL-Methionine sulfoxide, 98+%
	L00510	Methyl (methylthio)methyl sulfoxide, 97%
	A15009	Methyl phenyl sulfoxide, 98+%
	H63053	N-Boc-L-methionine sulfoxide, 98%
	H63271	N-Fmoc-L-methionine sulfoxide, 98%

# Sulfides



Sulfides belong to that class of compounds bearing an inorganic anion of sulfur ( $S^{2-}$ ). In organic chemistry it denotes a class of compounds that have a C-S-C linkage in them and may sometimes be alternatively referred to as thioethers. Organic sulfides readily form stable sulfonium salts when alkylated. These sulfonium salts can be used to prepared sulfur -ylides. Sulfides are the precursors for sulfoxide and sulfones that have wide-applicability. Sulfides are extensively used in the synthesis of organic compounds that find applications in drugs, property enhancing additives, rubber oxidants, and agricultural chemicals. They are sometimes used as solvents of extraction.

Some sulfides function as antioxidant, scavenging peroxides that are formed during thermal oxidation degradation of plastics and other organic materials. The polymer polyphenylene sulfide is employed as a high temperature plastic. Organic sulfides are biologically important compounds. Amino acid methionine and the cofactor biotin are some examples of sulfides found in biological systems.

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	H33983	2-(2-Chlorobenzylthio)ethylamine, 97%
	L11005	2-Bromoethyl phenyl sulfide, 97%
	B23265	2-Chloroethyl phenyl sulfide, 98%
	L10464	2-Methoxyethyl phenyl sulfide, 98%
	B21345	3-Chloropropyl phenyl sulfide, 97%
	B20073	4-Acetyldiphenyl sulfide, 97%
	A17278	4-Nitrophenyl phenyl sulfide, 98%
	L12847	Allyl ethyl sulfide, 97%
	B22514	Allyl methyl sulfide, 98%
	L04771	Allyl phenyl sulfide, 97%
	A16171	Benzyl phenyl sulfide, 98%
	39556	Bis(trimethylsilyl)sulfide, 98%
	44818	Bis(trimethylsilyl)sulfide, tech.
	L07705	Borane-dimethyl sulfide complex, 94%

	L10858	Chloromethyl methyl sulfide, 94%
	L03712	Cyclohexyl methyl sulfide, 97%
	L12321	Cyclopropyl phenyl sulfide, 98+%
	H33284	Di-2-thienyl sulfide, 97%
	B22337	Dibenzyl sulfide, 99%
	L03493	Diethyl sulfide, 96%
	B21302	Diisopropyl sulfide, 99%
	22949	Dimethyl sulfide, 99+%
	H32913	Dimethyl trisulfide, 98%
	L07599	Di-n-butyl sulfide, 98%
	B22560	Di-n-decyl sulfide, 97%
	B22325	Di-n-hexyl sulfide, 97%
	L10638	Di-n-nonyl sulfide, 98%
	B21978	Di-n-octadecyl disulfide, 98%
	A17955	Di-n-octyl sulfide, 97%
	L04649	Di-n-pentyl sulfide, 97%
	B23155	Di-n-propyl sulfide, 98+%
	A12586	Diphenyl disulfide, 98%
	A11114	Diphenyl sulfide, 98%

	L02859	Ethyl methyl sulfide, 97%
	A13987	Ethyl phenyl sulfide, 98%
	B21994	Furfuryl isopropyl sulfide, 99%
	L02933	Methyl p-tolyl sulfide, 97%
	L12039	n-Butyl methyl sulfide, 98+%
	L05473	n-Decyl methyl sulfide, 97%
	14877	n-Dodecyl methyl sulfide
	B22390	tert-Butyl methyl sulfide, 98+%
	B20063	Tetramethylthiuram disulfide, 97%
	A17259	Tetramethylthiuram monosulfide, 97%
	H60917	Tetra-n-butylthiuram disulfide, 98%
	H61778	Tri(1-aziridiny)phosphine sulfide, 98%



## Sulfonic Acid Salts



Sulfonic acid salts refer to those anions that have the general formula  $\text{RSO}_2\text{O}^-$  and are also referred to as sulfonates, wherein R is alkyl, aryl or any other organic moiety. Organic sulfonic salts serve as anionic surface-active agents and are therefore widely used in the detergent industry. Unlike ordinary soaps, soaps containing organic sulfonic salts do not form insoluble salts with calcium and magnesium ions and hence they do not form scum in hard water. In the petroleum industry, they are also employed as emulsion breakers. They also find application as electrolytes in Zinc-cerium and lead-acid flow batteries. They are important intermediates in the preparation of dyes and chemicals for electroplating.

Sulfonic acid salts find utility in drug development. In pharmaceuticals, drug substances presented as sulfonic acid salts ensure that the resultant drug product exhibit less plastic deformation while processing. Unlike other strong acid salts, sulfonate salts do not have the propensity to form hydrates, making them suitable for secondary processing like wet granulation. Moreover, such salts are stable and do not suffer from disproportionation reactions encountered in other salts (Journal of Pharmacy and Pharmacology 2009, 61: 2690278).

They also find utility in photoimaging and as an etching agent for compound semi-conductors and ceramics.

















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	A11439	1,2-Dihydroxybenzene-3,5-disulfonic acid disodium salt monohydrate, 97%
	B20952	1,2-Ethanedisulfonic acid hydrate, 98%
	A10507	1,2-Naphthoquinone-4-sulfonic acid sodium salt, 97%
	B20092	1,3-Propanedisulfonic acid disodium salt, 99% (dry wt.)
	B23375	1-Nitroso-2-naphthol-3,6-disulfonic acid disodium salt, 90+%
	B20713	2,4,5-Trichlorobenzenesulfonic acid potassium salt, 90+%
	B21430	2,4-Dinitrobenzenesulfonic acid hydrate, 98%
	A18493	2,4-Dinitrobenzenesulfonic acid sodium salt, 97%
	B25650	2,5-Dichlorobenzenesulfonic acid dihydrate, 97%
	A15007	2,5-Dimethylbenzenesulfonic acid hydrate, 98%
	B24029	2-Chloro-p-phenylenediamine sulfate, 95%
	A19736	2-Formylbenzenesulfonic acid sodium salt hydrate, tech. 90%
	36256	2-Hydroxy-2-propanesulfonic acid monosodium salt, 97%
	L12912	2-Hydroxy-4-methoxybenzophenone-5-sulfonic acid hydrate, tech. 85%, may cont. up to 10% 2-propanol

	B25307	2-Phenylbenzimidazole-5-sulfonic acid monohydrate, 98%
	A10732	3,5-Dichloro-2-hydroxybenzenesulfonic acid sodium salt, 98%
	22414	4,5-Dihydroxynaphthalene-2,7-disulfonic acid disodium salt dihydrate, ACS
	L11965	4-Aminoazobenzene-4'-sulfonic acid sodium salt, tech. 90%
	B20281	4-Bromobenzenesulfinic acid sodium salt dihydrate, 97%
	A12583	4-Chlorobenzenesulfinic acid sodium salt hydrate, 97%
	A13362	4-Hydrazinobenzenesulfonic acid hydrate, 98%
	L10607	5,6-Diphenyl-3-(2-pyridyl)-1,2,4-triazine-4,4'-disulfonic acid disodium salt hydrate, 97+%
	B24066	5,6-Diphenyl-3-(2-pyridyl)-1,2,4-triazine-4,4"-disulfonic acid monosodium salt hydrate, 97%
	B21767	7-Fluorobenzofurazan-4-sulfonic acid ammonium salt, 98%
	B24969	9,10-Anthraquinone-2-sulfonic acid sodium salt hydrate, 97% (dry wt.), water ca 4-6%
	H55363	Agmatine sulfate, 97%
	L09001	Aminomalononitrile p-toluenesulfonate, 97+%
	16810	Azomethine-H hydrate
	B22550	Bathocuproin sulfonate disodium salt hydrate, 97%
	B23244	Bathophenanthrolinedisulfonic acid disodium salt hydrate, 98%
	B22811	Benzene-1,3-disulfonic acid disodium salt, 94%
	A12118	Benzenesulfinic acid sodium salt, 98%
	H64523	Benzenesulfonic acid isopropyl ester, 95%

	A18323	Biphenyl-4-sulfonic acid, tech. 85%
	A16791	D-3-Bromocamphor-10-sulfonic acid monohydrate, 99%
	A19886	D-3-Bromocamphor-8-sulfonic acid ammonium salt, 98%
	L14291	Diethyl sulfate, 98%
<b>WARNING.</b> Cancer - <a href="https://www.p65warnings.ca.gov/">https://www.p65warnings.ca.gov/</a>		
	L12813	Di-n-butyl sulfate, 95%
	44203	Diocetyl sulfosuccinate sodium salt, 96%
	L17444	Diphenyliodonium trifluoromethanesulfonate, 99%
	B21824	Ethanesulfonic acid sodium salt, 98%, may cont. ca 2% water
	A15731	Hydroxymethanesulfinic acid sodium salt hydrate, tech 85%, cont. up to 5% sodium sulfite (dry wt.)
	H56472	MES hydrate, 99+%
	B25321	Mesitylenesulfonic acid dihydrate, 98+%
	B22029	Mesitylenesulfonic acid sodium salt hemihydrate, 98%
	L11360	Methanesulfinic acid sodium salt, 95%
	A17214	MOPS sodium salt, 98%
	B21782	Naphthalene-1-sulfonic acid hydrate, 98%
	B22488	Naphthalene-1-sulfonic acid sodium salt, 98% (dry wt.), water <3.5%
	A13445	Naphthalene-2-sulfonic acid hydrate, 94%

	A13066	Naphthalene-2-sulfonic acid sodium salt, 98%, may cont. up to 10% residual inorganic salts and water
	B21315	N-Ethylguanidine sulfate, 98%
	A14175	N,N-Dimethyl-p-phenylenediamine sulfate, 98%
	H31763	Orthanilic acid, 95%
	A12659	p-Phenylenediamine sulfate, 98%
	A11430	p-Toluenesulfinic acid sodium salt, 97% (dry wt.), water <5%
	A14119	p-Toluenesulfonic acid monohydrate, 97%
	A19332	p-Toluenesulfonic acid sodium salt, 90+%
	A11044	S-Methylisothiuronium sulfate, 98+%
	15214	Sodium 1-heptanesulfonate monohydrate, 99%
	32190	Sodium 1-hexanesulfonate monohydrate, 99%
	42636	Sodium 1-octanesulfonate hydrate, HPLC grade, 99+%
	15764	Sodium 1-octanesulfonate monohydrate, 99+%
	15714	Sodium 1-pentanesulfonate monohydrate, HPLC grade
	H66496	Sodium 4-(tert-butylcarbonyloxy)benzenesulfonate, 95%
	A11786	Sodium n-octyl sulfate, 99%
	41690	Styrene-4-sulfonic acid sodium salt
	L11685	Styrene-4-sulfonic acid sodium salt hydrate, tech. 90%

# Thiols



Thiols are a class of organosulfur compounds that are sulfur analogs of alcohol containing a sulfhydryl (-SH) group. The thiols are also referred to as mercaptans, the name derived from latin mercurium captans, reflecting its strong propensity to capture mercury. Thiols generally have a strong smell and are used as an odorant to help detect natural gas leaks.

Thiols are used in the preparation of thioethers and thioesters. Thiols as ligands form metal thiolate complexes. Being a soft atom (HSAB theory), thiolate has a high affinity to bind to soft metal ions, like mercury and cadmium. The Thiol Michael addition has been extensively used to synthesize degradable polymers with wide-ranging biomedical applications. Cysteine is an important thiol-based amino acid. Olefin bearing thiols participate in thiol-ene reactions. Thiol-ene reactions, particularly the intermolecular reaction, is a fast growing field of research offering significant potential for the preparation of a broad range of sulfur bearing heterocycles including synthetic therapeutics such as cyclic peptides and thiosugars. As chiral auxiliaries, thiols find use as means of synthesizing enantiomerically enriched compounds.

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	L11064	1,10-Decanedithiol, 95%
	A11789	1,1-Bis(methylthio)-2-nitroethylene, 99%
	B22008	1,1'-Thiocarbonyldiimidazole, tech 90%
	B25261	1,2,4,5-Tetrakis(isopropylthio)benzene, 97%
	H32694	1,2,4-Triazolo[4,3-a]pyridine-3-thiol, 96%
	L11253	1,2-Benzenedithiol, 97%
	B21074	1,2-Bis(carboxymethylthio)ethane, 97%
	L02019	1,2-Bis(phenylthio)ethane, 98+%
	L12865	1,2-Ethanedithiol, 98+%
	H33969	12-Mercaptododecylphosphonic acid, 95%
	L19439	1,3-Benzenedithiol, 97%
	B24904	1,3-Bis(methylthio)-2-methoxypropane, 96%
	B21893	1,3-Bis(methylthio)-2-propanol, 97%
	B22397	1,3-Bis(methylthio)propane, 97%















	H63384	1,3-Dimethyl-2-thiohydantoin, 95%
	B24707	1,3-Di-n-butyl-2-thiobarbituric acid, 98%
	A15261	1,3-Propanedithiol, 97%
	L19440	1,4-Benzenedithiol, 97%
	A15797	1,4-Dithio-DL-threitol, 98%
	A10138	1,4-Dithioerythritol, 98+%
	B22003	1-(4-Hydroxyphenyl)-5-mercaptopotrazole, 96%
	L12216	1-(4-Methoxyphenyl)imidazoline-2-thione, 98%
	B25665	1,5-Pentanedithiol, 96%
	L06686	1,6-Hexanedithiol, 97%
	B24693	1,8-Octanedithiol, 98%
	L07172	1,9-Nonanedithiol, 95%
	H50576	1-Bromo-2-(trifluoromethylthio)benzene, 97%
	L13718	1-Bromo-4-(ethylthio)benzene, 97%
	B20874	1-Bromo-4-(trifluoromethylthio)benzene, 97%
	43421	1-Butanethiol, 98%
	A15913	1-Decanethiol, 96%
	A12741	1-Dodecanethiol, 98%
	H34498	1-Eicosanethiol, 98%







































	H59493	1-Ethyl-3-methylimidazolium thiocyanate, 98%
	L12485	1-Fluoro-4-(trifluoromethylthio)benzene, 98+%
	L07079	1-Heptanethiol, 98%
	L15099	1-Hexadecanethiol, 97% (dry wt.), may cont. up to 4% water
	L09659	1-Hexanethiol, 96%
	H58958	1-Mercaptadamantane, 98%
	H61723	1-(Mercaptomethyl)cyclopropaneacetic acid, 98%
	B22608	1-Methylthio-1-methylamino-2-nitroethylene, 97%
	L17615	1-n-Butyl-4-(ethylthio)benzene, 96%
	L04123	1-Octadecanethiol, 96%
	L07195	1-Octanethiol, 97%
	L04330	1-Pentanethiol, 97%
	A12656	1-Phenyl-1H-tetrazole-5-thiol, 99%
	H26345	1-Phenylethyl mercaptan, 98%
	43420	1-Propanethiol, 98%
	L09401	1-Tetradecanethiol, 94%
	L11404	1-Thio-beta-D-glucose tetraacetate, 97+%















	B24876	1-Thionaphthol, 99%
	A13045	2-(2-Mercaptoethyl)pyrazine, 97%
	B25185	2-[2-(Phenylsulfonyl)ethylthio]nicotinic acid, 97%
	B25254	2,2'-Thiobisacetamide, 97%
	B22304	2,2'-Thiodiethanethiol, 90+%
	B23483	2,3,5,6-Tetrafluorothiophenol, 98%
	A15491	2,3-Dichlorothiophenol, 97%
	L19519	2,3-Dimercapto-1-propanesulfonic acid sodium salt monohydrate, 95%
	H56578	2,3-Dimercapto-1-propanesulfonic acid sodium salt monohydrate, 95%
	L03953	2,3-Dimercaptopropanol, 97%
	H61878	2-[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridylmethylthio]-1H-benzimidazole, 98%
	H58040	2-(3-Pyridyl)thioacetamide, 97%
	H51845	2-(3-Thiocarbamoylphenyl)benzimidazole, 97%
	L03324	2,4,5-Trichlorothiophenol, 97%
	A17139	2,4,6-Trimethylbenzyl mercaptan, 97%
	B24798	2,4,6-Trimethylthiophenol, 97%
	L10158	2-(4-Chlorobenzylthio)ethanol, 98%
	B25230	2-(4-Chlorophenylthio)-6-fluorobenzonitrile, 97%



















	A12852	2-(4-Chlorophenylthio)benzaldehyde, 98%
	A14661	2-(4-Chlorophenylthio)nicotinic acid, 98%
	B24999	2,4-Dichlorobenzyl mercaptan, 98+%
	A12384	2,4-Dichlorothiophenol, 97%
	B24726	2,4-Difluorothiophenol, 97%
	B23161	2,4-Dimethylthiophenol, 95%
	A11434	2,5-Dichlorothiophenol, 98%
	A12615	2,5-Dimercapto-1,3,4-thiadiazole, 97% (dry wt.), water <3%
	L11105	2,5-Dimercapto-1,3,4-thiadiazole dipotassium salt, 97%
	L11641	2,5-Dimethoxythiophenol, 95%
	B24164	2,5-Dimethylthiophenol, 98%
	H50282	(2,6-Dichlorophenylthio)acetic acid, 99%
	A12854	2,6-Dichlorothiophenol, 97%
	H56373	2,6-Dimercaptopurine, 97%
	A13286	2,6-Dimethylthiophenol, 97%
	A11634	2-(8-Chloro-1-naphthylthio)acetic acid, 98%
	B25640	2-Amino-4-chlorothiophenol, 96%
	B20041	2-Amino-4-methoxy-6-(methylthio)-1,3,5-triazine, 97%

	L09683	2-Amino-4-(trifluoromethyl)thiophenol hydrochloride, 97%
	A11451	2-Amino-5-mercapto-1,3,4-thiadiazole, 98%
	L07777	2-Amino-6-hydroxy-8-mercaptapurine, 97%
	A18952	2-Aminothiophenol, 98%
	A11221	(2-Benzimidazolylthio)acetic acid, 98%
	A17198	2-(Benzimidazolylthio)acetic acid hydrazide, 97%
	B24924	2-Benzylthio-5-nitrobenzonitrile, 97%
	L12274	2-(Benzylthio)ethanol, 98%
	H53503	2-[Bis(methylthio)methylene]malononitrile, 97%
	H26247	2-Bromobenzyl mercaptan, 99%
	A13632	2-Bromothioanisole, 98%
	B25537	2-Bromothiophenol, 97%
	L06671	2-Carboxymethylthio-4-methylpyrimidine, 98%
	A12705	2-(Carboxymethylthio)benzoic acid, 97%



















	A10659	2-(Carboxymethylthio)pyrimidine, 98%
	A19818	2-(Carboxymethylthio)succinic acid, 97%
	A13498	2-Chloro-4-fluorothiophenol, 97%
	L10499	2-Chloro-6-methylthiophenol, 96%
	A15826	2-Chlorobenzyl mercaptan, 97%
	A12014	2-Chlorothiophenol, 98%
	H51739	2-(Dimethyl[4-(methylthio)phenyl]silyl)benzyl alcohol, 95%
	H66036	2-[(Ethoxycarbonothioyl)thio]-2-methylpropionic acid, 95%
	B22464	2-Ethylthio-1,3,4-thiadiazole-5-thiol, 97%
	H53350	2-(Ethylthio)benzeneboronic acid, 97%
	L05040	2-(Ethylthio)ethanol, 96%
	L07801	2-(Ethylthio)nicotinic acid, 98%
	L11498	2-Ethylthiophenol, 95%
	H53064	2-Fluoro-4-(methylthio)benzeneboronic acid, 98%
	B24995	2-Fluorothiophenol, 97%
	L12519	2-Hydroxythiophenol, 97%
	A14051	2-Iodothioanisole, 96%
	L05312	2-(Isopropylthio)ethanol, 98+%















	B22556	2-Mercapto-1,3,4-thiadiazole, 98%
	A13094	2-Mercapto-1-methylimidazole, 98%
<b>WARNING.</b> Reproductive Harm - <a href="https://www.p65warnings.ca.gov/">https://www.p65warnings.ca.gov/</a>		
	H33881	2-Mercapto-3-phenyl-3,5,6,7-tetrahydro-4H-cyclopenta[b]thieno[2,3-d]pyrimidin-4-one, 96%
	H34085	2-Mercapto-3-phenyl-5,6,7,8-tetrahydrobenzo[b]thieno[2,3-d]pyrimidin-4(3H)-one, 96%
	H65085	2-Mercapto-4,5-dimethylthiazole, 95%
	A12231	2-Mercapto-4,6-dimethylpyrimidine, 98%
	B24925	2-Mercapto-4,6-dimethylpyrimidine sodium salt, 98%
	A13145	2-Mercapto-4-methylpyrimidine hydrochloride, 99%
	L05829	2-Mercapto-4-phenylthiazole, 98%
	H60501	2-Mercapto-4-(trifluoromethyl)pyrimidine, 96%
	H26608	2-Mercapto-5-methoxy-3H-imidazo[4,5-b]pyridine, 95%
	B20570	2-Mercapto-5-methoxybenzimidazole, 99%
	L14228	2-Mercapto-5-methoxybenzothiazole, 97%
	B21355	2-Mercapto-5-methyl-1,3,4-thiadiazole, 99%
	A11192	2-Mercapto-5-methylbenzimidazole, 98%
	B22358	2-Mercapto-5-nitrobenzimidazole, 97%
	H27239	2-Mercapto-5-n-propylpyrimidine, 98%
	H32733	2-Mercapto-7-methoxy-4-methylquinoline, 96%

	H33976	2-Mercapto-7-methyl-3-phenyl-5,6,7,8-tetrahydrobenzo[b]thieno[2,3-d]pyrimidin-4(3H)-one, 96%
	A18350	2-Mercaptobenzimidazole, 97%
	A14086	2-Mercaptobenzothiazole, 97%
<b>WARNING.</b> Cancer - <a href="https://www.p65warnings.ca.gov/">https://www.p65warnings.ca.gov/</a>		
	A12346	2-Mercaptobenzoxazole, 98+%
	L11536	2-Mercaptobenzyl alcohol, tech. 90%
	A15890	2-Mercaptoethanol, 98+%
	A14377	2-Mercaptoethylamine hydrochloride, 97+%
	L01346	2-Mercaptoimidazole, 98+%
	A14683	2-Mercaptonicotinic acid, 90+%
	L10257	2-Mercaptopropionic acid, 97%
	A11741	2-Mercaptopyridine, 98%
	A14152	2-Mercaptopyridine N-oxide, 99%
	A16922	2-Mercaptopyridine N-oxide sodium salt, 40% aq. soln.
	B20529	2-Mercaptopyridine N-oxide sodium salt, anhydrous, 98%



















	A13382	2-Mercaptopyrimidine, 98%
	L07058	2-Mercaptothiazole, 97%
	L04924	2-Mercaptothiazoline, 98+%
	L09689	2-Methoxythiophenol, 97%
	B21949	2-Methyl-1-butanethiol, 99%
	B25385	(±)-2-Methyl-2-propanesulfonamide, 97%
	A11957	2-Methyl-3-(methylthio)pyrazine, 99%
	B21998	2-Methyl-5-(methylthio)furan, 99%
	A15816	2-Methylbenzyl mercaptan, 97%
	H57776	2-Methyl-N-(3-oxetanylidene)propane-2-sulfonamide, 95%
	L11452	2-Methylthio-5-(trifluoromethyl)aniline, 97%
	A12762	2-(Methylthio)aniline, 98%
	L17456	2-(Methylthio)benzeneboronic acid, 98+%
	A10686	2-(Methylthio)benzimidazole, 98+%
	A10379	2-(Methylthio)benzoic acid, 98+%
	L06870	2-(Methylthio)benzotrile, 98%
	L05442	2-(Methylthio)ethanol, 99%
	B22941	2-(Methylthio)ethylamine, 95%



































	B22368	2-(Methylthio)naphthalene, 98%
	L09920	2-(Methylthio)nicotinic acid, 98+%
	A17916	2-(Methylthio)nicotinoyl chloride, 98%
	H51017	2-(Methylthio)oxazolo[5,4-c]pyridine
	L10128	2-(Methylthio)phenol, 97+%
	L11421	2-(Methylthio)phenyl isothiocyanate, 97%
	B25279	2-(Methylthio)pyrazine, 99%
	H27162	2-(Methylthio)pyridine-3-boronic acid, 95%
	H27610	2-(Methylthio)pyridine-3-boronic acid pinacol ester, 95%
	B25137	2-(Methylthio)thiazole, 98%
	A11763	2-(Methylthio)thiophene, 97%
	L12528	2-(n-Propylthio)ethanol, 98%
	B25259	2-(n-Propylthio)nicotinamide, 97%
	A14623	2-(n-Propylthio)nicotinic acid, 97%
	A10861	2-(Phenylthio)ethanol, 99%
	A13708	2-(Phenylthio)thiophene, 97+%
	43422	2-Propanethiol, 98%
	A15524	2-(tert-Butylthio)benzaldehyde, 96%



















	L11578	2-tert-Butylthiophenol, tech. 80%
	A12125	2-Thionaphthol, 98%
	H63447	2-Thioxo-3-[3-(trifluoromethyl)phenyl]-4-thiazolidinone, 95%
	L19911	2-(Trifluoromethoxy)thiophenol, 97%
	H26410	2-(Trifluoromethylthio)benzyl bromide, 97%
	L19913	2-(Trifluoromethyl)thiophenol, 97%
	H27378	3-(2-Methyl-3-furylthio)-4-heptanone, 97%
	L06208	3-(2-Naphthylthio)propionic acid, 97%
	H33024	3,3'-Diethylthiatricarbocyanine perchlorate, 96%
	H31609	3-(4-Bromophenylthio)propionic acid, 98%
	L03226	3,4-Dichlorobenzyl mercaptan, 97%
	L12031	3,4-Dichlorothiophenol, 97%
	B20569	(3,4-Dimethoxyphenylthio)acetic acid, 97%
	A14745	3,4-Dimethoxythiophenol, 98%















	B23168	3,4-Dimethylthiophenol, 98%
	H34101	3-[4-(Methylthio)phenyl]propionic acid, 96%
	L15003	3,4-Toluenedithiol, 95%
	A14669	3,5-Bis(trifluoromethyl)thiophenol, 98%
	L10697	3,5-Dichlorothiophenol, 97%
	L08403	3,5-Dimethylthiophenol, 97%
	A17654	3,6-Dithia-1,8-octanediol, 97%
	H33153	3-Allyl-2-mercapto-3,4,5,6,7,8-hexahydrobenzo[4,5]thieno[2,3-b]pyrimidin-4-one, 96%
	H33943	3-Allyl-2-mercapto-3,5,6,7-tetrahydro-4H-cyclopenta[4,5]thieno[2,3-d]pyrimidin-4-one, 96%
	H33471	3-Allyl-7-methyl-2-mercapto-5,6,7,8-tetrahydro[1]benzothieno[2,3-d]pyrimidin-4(3H)-one, 96%
	A15242	3-Amino-5-mercapto-1,2,4-triazole, 97+%
	B20991	3-Amino-5-methylthio-1H-pyrazole-4-carbonitrile, 97%
	B25473	3-Aminothiophenol, 97%
	H26358	3-Bromobenzyl mercaptan, 98%
	B25406	3-Bromothioanisole, 98%
	B25092	3-Bromothiophenol, 97%
	A10856	3-Chloro-4-fluorothiophenol, 97%
	L11346	3-Chlorothioanisole, 99%

	L04806	3-Chlorothiophenol, 97%
	L06688	3-Cyano-2-mercapto-4,6-dimethylpyridine, 98%
	B20574	3-Dimethylamino-1,2,4-dithiazole-5-thione, 97%
	B23047	3-Ethylrhodanine, 98%
	B22710	3-(Ethylthio)propanol, 97%
	B23114	3-Fluorothiophenol, 98%
	A13120	3-Mercapto-1,2,4-triazole, 98%
	A18948	3-Mercapto-1,2-propanediol, 90%
	B21965	3-Mercapto-1-hexanol, 96%
	B22494	3-Mercapto-2-butanone, 98%, stab. with 0.1% Calcium carbonate
	B21797	3-Mercapto-2-pentanone, 97%, stab. with 0.1% Calcium carbonate
	A13261	3-Mercaptopropionic acid, 99%
	42426	(3-Mercaptopropyl)methyldimethoxysilane, 95%
	B21191	(3-Mercaptopropyl)triethoxysilane, 94%
	B23726	(3-Mercaptopropyl)trimethoxysilane, 95%
	A10648	3-Methoxythiophenol, 97%
	B22330	3-Methyl-2-butanethiol, 95%, remainder mainly 2-methyl-1-butanethiol
	L12043	3-Methylbenzyl mercaptan, 95%



















	A10403	3-Methylthio-1-propanol, 98%
	H25846	3-Methylthio-1-propylamine, 97%
	B23184	3-(Methylthio)aniline, 97%
	L20250	3-(Methylthio)benzeneboronic acid, 97%
	H27200	3-(Methylthio)benzoic acid, 97%
	B22033	3-(Methylthio)butyraldehyde, 95%
	B21786	3-(Methylthio)hexanol, 99%
	H27452	3-(Methylthio)phenylacetic acid, 95%
	L12008	3-(Methylthio)phenyl isocyanate, 96%
	L12999	3-(Methylthio)phenyl isothiocyanate, 97%
	A14774	3-(Methylthio)propionaldehyde, 97%
	L12861	3-(Methylthio)propionic acid, 98%
	H34393	3-(Methylthio)propyl hexanoate, 98%
	B22150	3-(Methylthio)propyl isothiocyanate, 98%



















	H33285	3-(Methylthio)propyl mercaptoacetate, 97%
	B22579	3-n-Hexylthio-1,2,4-triazole, 97%
	A12427	3-Phenyl-1,2,4-triazole-5-thiol hydrate, 98%
	A12585	3-(Phenylthio)thiophene, 97%
	L17238	3-(tert-Butyldimethylsiloxy)thiophenol, 95%
	L19912	3-(Trifluoromethoxy)thiophenol, 98%
	L08155	3-(Trifluoromethyl)benzyl mercaptan, tech. 90%
	A19975	3-(Trifluoromethylthio)benzoic acid, 97%
	L07191	3-(Trifluoromethyl)thiophenol, 97%
	H26622	3-(Trifluoromethylthio)phenylacetic acid, 97%
	H60093	3-(Tritylthio)propionic acid, 97%
	H27560	4-(2-Methyl-3-furylthio)-5-nonanone, 95%
	H52508	4-[2-(Methylcarbamothioyl)hydrazinocarbonyl]benzeneboronic acid, 98%
	L04308	4,4'-Thiodiphenol, 98+%
	L07888	4,6-Diamino-2-(methylthio)pyrimidine, 97%
	A12681	4,6-Dihydroxy-2-mercaptopyrimidine, 98%
	A19949	4-Amino-2-(methylthio)pyrimidine-5-carbonitrile, 97%
	L00982	4-Amino-3-hydrazino-5-mercapto-1,2,4-triazole, 99+%













	L01992	4-Amino-6-hydroxy-2-mercaptopyrimidine monohydrate, 98+%
	L06934	4-Amino-6-mercapto-1H-pyrazolo[3,4-d]pyrimidine, 94%
	A19834	(4-Aminophenylthio)acetic acid, 97%
	A14082	4-Aminothiophenol, 97%
	H64124	4-Bromo-2-(methylthio)pyrimidine, 97%
	H26299	4-Bromobenzyl mercaptan, 98%
	A15504	4-Bromothioanisole, 98+%
	A10555	4-Bromothiophenol, 98%
	H61620	4-Chloro-2-methylthio-6-(trifluoromethyl)pyrimidine, 97%
	H26246	4-Chloro-3-(trifluoromethylthio)benzyl bromide, 97%
	H50532	4-Chloro-5-cyano-6-(4-methylphenyl)-2-(methylthio)pyrimidine, 97%
	L08583	(4-Chlorophenylthio)acetic acid, 98%
	A12319	(4-Chlorophenylthio)acetonitrile, 98%
	A11025	4-Chlorothioanisole, 98%
	A12021	4-Chlorothiobenzamide, 97%
	B23838	4-Chlorothiophenol, 97%
	L17624	4-(Ethylthio)benzaldehyde, 97+%
	L17623	4-(Ethylthio)benzeneboronic acid, 98%



















	B25026	4-Ethylthiophenol, 97%
	A10126	4-Fluorobenzyl mercaptan, 96%
	A19658	(4-Fluorophenylthio)acetic acid, 97%
	L04979	4-Fluorothioanisole, 97%
	A17600	4-Fluorothiophenol, 97%
	H53382	4-Hydroxy-2-methylthio-6-(trifluoromethyl)pyrimidine, 97%
	L06836	4-Hydroxy-6-mercapto-1H-pyrazolo[3,4-d]pyrimidine, 98%
	43873	4-Hydroxy-6-(trifluoromethyl)pyrimidine-2-thiol, 97+%
	L04429	4-Hydroxythiophenol, 97%
	H52960	4-Isopropylthiobenzeneboronic acid, 97%
	A16038	(4-Isopropyl)thiophenol, 95%
	H32107	4-Mercapto-4-methyl-2-pentanol, 98%
	H31693	4-Mercapto-4-methyl-2-pentanone, 98%
	H27658	4-Mercaptophenylacetic acid, 97%



































	B22542	4-Methoxybenzyl mercaptan, 98%
	L10945	4-Methoxythiobenzamide, 98%
	A16009	4-Methoxythiophenol, 97%
	H33305	4-Methyl-1,2,4-triazolo[4,3-a]quinoline-1-thiol, 96%
	H28795	4-Methyl-2-(methylthio)pyrimidine, 98%
	B22058	4-Methyl-4-methylthio-2-pentanone, 99%
	H55095	4-Methylbenzenethiol sodium salt, 98%
	A11770	4-(Methylphenylthio)acetaldehyde diethyl acetal, 98%
	B20247	(4-Methylphenylthio)acetone, 97%
	H34098	4-Methylquinoline-2-thiol, 96%
	B22206	4-Methylthio-2-butanone, 98%
	H26040	4-Methylthio-3-(trifluoromethyl)aniline, 97%
	L18074	4'-(Methylthio)acetophenone, 99%
	L04950	4-(Methylthio)aniline, 98%
	B25427	4-(Methylthio)benzaldehyde, 97%
	B23454	4-(Methylthio)benzeneboronic acid, 97%
	B25706	4-(Methylthio)benzoic acid, 97%
	L08979	4-(Methylthio)benzotrile, 98+%


















	B22455	4-(Methylthio)benzyl alcohol, 98%
	L19877	4-(Methylthio)benzyl chloride, 99%
	B22673	4-(Methylthio)butanol, 99%
	H63990	4-(Methylthio)imidazole, 97%
	L07353	4-(Methylthio)-m-cresol, 97%
	H26225	4-(Methylthio)phenol, 98%
	H26888	4-(Methylthio)phenylacetic acid, 97%
	L09270	4-(Methylthio)phenyl isothiocyanate, 97%
	H51848	4-(Methylthio)thiobenzamide, 97%
	L09580	4-(Methylthio)thiophenol, 96%
	B20339	4-Nitrothioanisole, 98%
	H59240	4-Nitrothiophenol, 96%
	A12148	4-tert-Butylthiophenol, 97%
	H28235	4-tert-Butylthiophenol gold nanoparticles, 2% (w/v) soln. in toluene, 2-5nm particles
	L18674	4-(Trifluoromethoxy)thiophenol, 95%
	H50283	[4-(Trifluoromethyl)phenylthio]acetic acid
	H26605	4'-(Trifluoromethylthio)acetophenone, 97%
	L16067	4-(Trifluoromethylthio)aniline, 98%



















	B20104	4-(Trifluoromethylthio)benzoic acid, 97%
	B23624	4-(Trifluoromethylthio)benzoyl chloride, 97%
	B24026	4-(Trifluoromethylthio)benzyl alcohol, 97%
	H31515	4-(Trifluoromethylthio)benzylamine, 95%
	L19205	4-(Trifluoromethylthio)benzyl bromide, 97%
	A12725	4-(Trifluoromethylthio)thiophenol, 97%
	B24996	4-(Trifluoromethylthio)phenol, 98%
	H63432	4-(Trifluoromethylthio)phenylacetic acid, 98%
	L19206	4-(Trifluoromethylthio)phenyl isocyanate, 97%
	H33429	5-(4-Chlorophenyl)-1,3,4-oxadiazole-2-thiol, 96%
	H34342	5-(4-Chlorophenyl)-1,3,4-thiadiazole-2-thiol, 96%
	H33621	5-(4-Chlorophenyl)thiazolo[2,3-c]-1,2,4-triazole-3-thiol, 96%
	B23145	5-(4-Diethylaminobenzylidene)rhodanine, 98%
	A17152	5-(4-Dimethylaminobenzylidene)rhodanine 98%

	H33012	5-(4-Methylphenyl)thiazolo[2,3-c]-1,2,4-triazole-3-thiol, 96%
	L19264	5-[4-(Methylthio)phenyl]-1H-tetrazole, 99%
	H32907	5-(4-Pyridyl)-1,3,4-oxadiazole-2-thiol, 97%
	H33113	5-(4-tert-Butylphenyl)-1,3,4-oxadiazole-2-thiol, 96%
	A14331	5,5'-Dithiobis(2-nitrobenzoic acid), 99%
	A14309	5,6-Dichloro-2-mercaptobenzimidazole, 98%
	H26999	5-Amino-2-mercaptobenzimidazole, 96%
	H32237	5-Bromobenzoxazole-2-thiol, 97%
	A19852	5-Chloro-2-mercaptobenzimidazole, 98%
	H32749	5-Chlorobenzoxazole-2-thiol, 97%
	H60375	5-Difluoromethoxy-2-mercaptobenzimidazole, 97%
	L17781	5-Ethoxy-2-mercaptobenzimidazole, 97%
	H31825	5-Fluorobenzoxazole-2-thiol, 97%
	B21882	(5-Mercapto-1,3,4-thiadiazol-2-ylthio)acetic acid, 96%
	B20443	5-Mercapto-1-methyltetrazole, 98%
	H51839	5-Methylbenzene-1,3-dithiocarboxamide, 97%
	L08002	5-Methylthio-1,3,4-thiadiazole-2-thiol, 97%
	H52463	5-(Methylthio)pyridine-3-boronic acid, 96%
















	H61803	5-(Methylthio)thiophene-2-carboxaldehyde, 97%
	H61106	5-(Methylthio)thiophene-2-carboxylic acid, 97%
	H33776	5-(o-Tolyl)-1,3,4-oxadiazole-2-thiol, 96%
	H33061	5-Phenyl-1,3,4-thiadiazole-2-thiol, 96%
	H34307	6,7-Dihydro-5H-cyclopenta-4,5-thieno[2,3-d]pyrimidine-4-thiol, 96%
	A17262	6,8-Dihydroxy-2-(methylthio)purine, 98%
	A15367	6-Chloro-5-fluoro-2-mercaptobenzimidazole, 98%
	L04447	6-Ethoxy-2-mercaptobenzothiazole, 99%
	H28708	6-Hydroxy-2-methylthio-4(3H)-pyrimidinone, 97%
	H50455	6-(Isopropylthio)imidazo[2,1-b]thiazole-5-carboxaldehyde, 95%
	A12197	6-Mercaptopurine monohydrate, 98%
	H27873	6-(Methylthio)pyridine-3-boronic acid, 95%
	B21280	6-Thioguanine, 98%
	H33112	7-Methyl-5,6,7,8-tetrahydrobenzo[b]thieno[2,3-d]pyrimidine-4-thiol, 96%
	H25925	Albendazole, 98+%
	A13616	Allyl mercaptan, tech. 70%
	L16226	alpha-(Phenylthio)phenylacetic acid, 99%


















	H51837	Benzene-1,2-dithiocarboxamide, 97%
	H51853	Benzene-1,3-dithiocarboxamide, 97%
	H51857	Benzene-1,4-dithiocarboxamide, 97%
	B20081	Benzyl mercaptan, 99%
	H51844	Benzyl thioacetimidate hydrochloride, 96%
	L03814	(Benzylthio)acetone, 98%
	H52225	Biphenyl-4-thiocarboxamide, 97%
	B22018	Bis(4-chlorophenylthio)methane, 99%
	39557	Bis(ethylenedithio)tetrathiafulvalene
	A19706	Bis(methylthio)methane, 99%
	H26435	Bis(methylthiomethyl) sulfide, 97%
	L01723	Bis(phenylthio)methane, 98+%
	L06432	Chlorocarbonylsulfonyl chloride, 95%
	L03577	Cyclopentanethiol, 97%
	H33935	Diethyl 12-mercaptododecylphosphonate, 95%



















	A11992	Diethylaminosulfur trifluoride, 95%
	A13660	Diethyl phenylthiomethylphosphonate, 96%
	A11043	Dimethyl cyanodithioiminocarbonate, 95%
	H60104	Dimethylthiocarbamoyl chloride, 95%
	B24710	DL-Penicillamine, 97+%
	A11446	D-(-)-Penicillamine, 98%
	22585	Ethanethiol, 97%
	L13059	Ethyl 2-isocyanato-4-(methylthio)butyrate, 97%
	L11520	Ethyl 2-mercaptopropionate, 98%
	B22597	Ethyl 2-methyl-2-(methylthio)propionate, 98%
	B20550	Ethyl 3-cyano-2-mercapto-6-methylpyridine-4-carboxylate, 97%
	B21766	Ethyl 3-(furfurylthio)propionate, 97%
	L08218	Ethyl 3-methyl-2-thionoimidazoline-1-carboxylate, 97%
	A11742	Ethyl 3-(methylthio)propionate, 98%
	L07121	Ethyl 4-amino-2-mercaptopyrimidine-5-carboxylate, 97%
	B22429	Ethyl 4-chloro-2-(methylthio)pyrimidine-5-carboxylate, 98%
	H26594	Ethyl 4-cyano-5-(methylthio)thiophene-2-carboxylate, 97%













	L06784	Ethylenebis(isothiuronium bromide), 98%
	A14321	Ethyl mercaptoacetate, 98+%
	B24285	Ethyl (methylthio)acetate, 98%
	L04743	(Ethylthio)acetic acid, 97%
	L04142	(Ethylthio)acetone, 95%
	B22380	Furfuryl mercaptan, 98+%
	B22724	(Furfurylthio)acetone, 96%
	B22313	Isopentyl 3-(methylthio)propionate, 98%
	L09661	Isopentyl mercaptan, 97%
	A17124	(Isopropylthio)benzene, 98%
	L08087	L-Noradrenaline, 98%
	B20391	Mercaptoacetic acid, 97+%
	45557	Mercaptoacetic acid calcium salt trihydrate, 98%
	L14356	Mercaptoacetic acid sodium salt, 97%
	B23301	Mercaptosuccinic acid, 98%
	B22717	Methyl (2-furfurylthio)acetate, 97%
	A10905	Methyl 2-(methylthio)benzoate, 98%
	B22303	Methyl 2-(methylthio)butyrate, 98%



	B21979	Methyl 2-(methylthio)propionate, 99%
	H26233	Methyl 3-amino-4-cyano-5-(methylthio)thiophene-2-carboxylate, 97%
	B20718	Methyl 3-mercaptopropionate, 98%
	A10649	Methyl 3-(methylthio)propionate, 98%
	H26353	Methyl 4-cyano-5-(methylthio)thiophene-2-carboxylate, 97%
	L11000	Methyl 4-(methylthio)butyrate, 96%
	H64417	Methyl 5-bromo-2-(methylthio)pyrimidine-4-carboxylate, 97%
	L03783	Methyl mercaptoacetate, 95%
	L00510	Methyl (methylthio)methyl sulfoxide, 97%
	L12649	Methyl (phenylthio)acetate, 99%
	B22667	(Methylthio)acetaldehyde dimethyl acetal, 97%
	B22531	(Methylthio)acetic acid, 98%
	L03066	(Methylthio)acetonitrile, 99%
	H28400	Methyl thiosalicylate, 97%
	B23818	m-Thiocresol, 97%

	H52204	Naphthalene-1-thiocarboxamide, 97%
	H66213	N-Boc-S-(3-nitro-2-pyridylthio)-L-cysteine, 95%
	B22336	n-(Butylthio)acetonitrile, 95%
	H29045	n-Dodecanethiol gold nanoparticles, 2% (w/v) soln. in toluene, 2-5nm particles
	B24529	N,N-Dimethylthioformamide, 97%
	H27439	N,S-Dimethylisothiuronium hydriodide, 98%
	L13356	N-tert-Butyl-2-benzothiazolesulfenamide, 97%
	B22460	o-Thiocresol, 98%
	B22323	Pentafluorothiophenol, 97%
	B22280	(Phenylthio)acetic acid, 97%
	A12869	(Phenylthio)acetonitrile, 98%
	B22046	p-Mentha-8-thiol-3-one acetate, cis + trans, 97+%
	B22287	p-Mentha-8-thiol-3-one, cis + trans, 97%
	A11450	Potassium ethyl xanthate, 97+%
	B24970	p-Thiocresol, 98%
	L09374	Pyrrolidine-2-thione, 97%
	H27724	(R)-(+)-2-Methyl-2-propanesulfinamide, 98%
	B22260	Ranitidine hydrochloride, 99%

	B22244	Rhodanine-3-acetic acid, 98%
	A18293	Rhodanine, 98+%
	H52430	(S)-1-Benzyl-3-[2-(methylthio)ethyl]piperazine, 97%
	B22435	S-Boc-2-mercapto-4,6-dimethylpyrimidine, 97%
	A10680	S-Ethyl thioacetate, 98+%
	B21821	S-Furfuryl thioacetate, 99%
	B22351	S-Furfuryl thiopropionate, 99%
	A11044	S-Methylisothiuronium sulfate, 98+%
	A12400	S-Methyl thioacetate, 98+%
	B21875	S-n-Propyl thioacetate, 98+%
	H66135	Sodium 1-propanethiolate, tech. 85%
	A15898	Sodium diethyldithiocarbamate trihydrate, 98%
	H55175	S-Phenyl thioacetate, 98%
	L00302	Sulfur trioxide-trimethylamine complex, 95%
	30638	Thioacetamide, ACS, 99% min
	A14846	Thioanisole, 99%
	A12973	Thiobenzamide, 98%
	L01205	Thiocarbohydrazide, 97%

	L03222	Thiodisuccinic acid, 98+%
	H64663	Thioisobutyramide, 95%
	B22642	Thiophene-2-thiol, contains dimer, 97% as monomer
	A15916	Thiophenol, 99+%
	A13401	Thiosalicylic acid, 98%
	H27116	Triethylsulfonium bis(trifluoromethylsulfonyl)imide, 98%
	L00667	Triethylsulfonium iodide, 97%
	B25098	Trimethylsulfonium bromide, 98%
	A12639	Trimethylsulfonium iodide, 98%
	A14888	Triphenylmethyl mercaptan, 98+%
	H26059	Triphenylsulfonium chloride, 94%
	L02907	Tris(ethylthio)methane, 98%

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