

Fine Chemicals

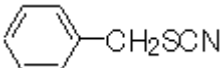
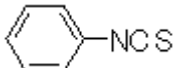
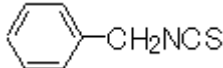
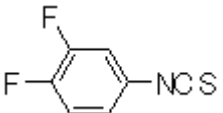
Fine Chemicals

Fine chemicals are rapidly expanding its sector in either raw materials or intermediates. Taking advantage of our accumulated technology over a long time, we are developing various kinds of Thio compounds, Azide compounds, Tetrazoles and Carbodiimides. These compounds have diverse applications for pharmaceutical and agricultural chemical intermediate, electronic industry materials, photographic chemicals and other general industrial chemicals. We also take proactive approach to contract synthesis to meet the diverse needs.

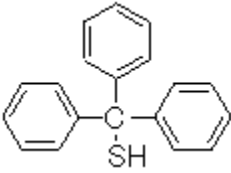
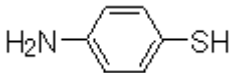
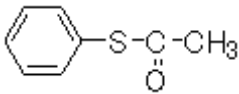
Carbon Disulfide

We started manufacturing of Carbon disulfide in 1929. It is used as solvent for fibers and cellophane. In recent years, it is also used as raw materials for industrial chemicals such as rubber chemicals and agricultural chemicals.

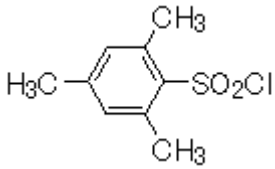
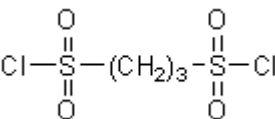
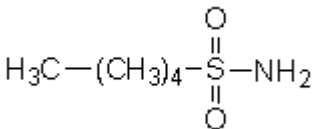
Products Lineup

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
Sulfides					
CS	Carbon disulfide	CS ₂	75-15-0	1-172	Raw material for Pharmaceuticals and agrochemicals
TDG	Thiodiglycol	HOCH ₂ CH ₂ SCH ₂ CH ₂ OH	111-48-8	2-470	Raw material for Dyes
Thiocyanates					
XK	Potassium thiocyanate	KSCN	333-20-0	1-152	Raw material for chemicals
BTC	Benzyl thiocyanate		3012-37-1	-	Raw material for chemicals
Isothiocyanates					
PIT	Pheny - isothiocyanate		103-72-0	3-3239	Raw material for photochemicals
BIT	Benzyliso -thiocyanate		622-78-6	3-3243	Raw material for chemicals
FIT	3,4-Difluorophenyl isothiocyanate		113028-75-4	-	Raw material for pharmaceuticals

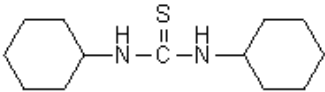
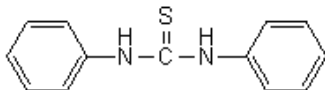
Fine Chemicals

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
Mercaptans					
MTG	2-Mercapto-ethanol	HOCH ₂ CH ₂ SH	60-24-2	2-458	Raw material for optical lens
TAS	Thiomalic acid	$\begin{array}{c} \text{HSCHCOOH} \\ \\ \text{CH}_2\text{COOH} \end{array}$	70-49-5	2-1451	Raw material for pharmaceuticals
TPMM	Trityl mercaptan		3695-77-0	-	Raw material for pharmaceuticals
ATP	4-Amino-thiophenol		1193-02-8	-	Raw material for chemicals
DMDDES	2,2'-Dimercaptodiethyl-sulfide	HS-CH ₂ CH ₂ SCH ₂ CH ₂ -SH	3570-55-6	2-3440	Raw material for optical lens
Thiocarboxylic acids					
TA	Thioacetic acid	CH ₃ COSH	507-09-5	2-691	Raw material for pharmaceuticals
TA-K	Potassium thioacetate	CH ₃ COSK	10387-40-3	2-3702	Raw material for pharmaceuticals
TAP	Thioacetic acid-S-phenylester		934-87-2	-	Raw material for pharmaceuticals
ATB	3-(Acetylthio)-2-methylpropanoic acid	$\begin{array}{c} \text{CH}_3\text{COSCH}_2\text{CHCOOH} \\ \\ \text{CH}_3 \end{array}$	33325-40-5	-	Raw material for pharmaceuticals
Thioacetamides					
AT-R	Thioacetamide	CH ₃ C(=S)NH ₂	62-55-5	9-806	Raw material for pharmaceuticals
DAT	Dimethylaminothioacetamide monohydrochloride	(CH ₃) ₂ NCH ₂ C(=S)NH ₂ ·HCl	27366-72-9	-	Raw material for pharmaceuticals

Fine Chemicals

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
Sulfonyl halogenates					
MSC	Methanesulfonyl chloride	$\text{CH}_3\text{SO}_2\text{Cl}$	124-63-0	2-1583	Raw material for pharmaceuticals, photochemicals, agrochemicals
ESC	Ethanesulfonyl chloride	$\text{CH}_3\text{CH}_2\text{SO}_2\text{Cl}$	594-44-5	2-3915	Raw material for pharmaceuticals
PSC	1-Propanesulfonyl chloride	$\text{CH}_3(\text{CH}_2)_2\text{SO}_2\text{Cl}$	10147-36-1	-	Raw material for electronic industry
BSC	1-Butanesulfonyl chloride	$\text{CH}_3(\text{CH}_2)_3\text{SO}_2\text{Cl}$	2386-60-9	-	Raw material for agrochemicals
HSC	1-Hexanesulfonyl chloride	$\text{CH}_3(\text{CH}_2)_5\text{SO}_2\text{Cl}$	14532-24-2	2-1641	Raw material for electronic industry
OSC	1-Octanesulfonyl chloride	$\text{CH}_3(\text{CH}_2)_7\text{SO}_2\text{Cl}$	7795-95-1	2-1641	Raw material for electronic industry and photochemicals
DSC	1-Hexadecanesulfonyl chloride	$\text{CH}_3(\text{CH}_2)_{15}\text{SO}_2\text{Cl}$	38775-38-1	2-1641	Raw material for photochemicals
CMSC	Chloromethanesulfonyl chloride	$\text{ClCH}_2\text{SO}_2\text{Cl}$	3518-65-8	-	Raw material for agrochemicals
TBSC	2-Mesitylenesulfonyl chloride		773-64-8	-	Raw material for pharmaceuticals
PDSC	1,3-Propanedisulfonyl dichloride		20686-91-3	2-1644	Raw material for electronic industry
Sulfonamides					
PSN	1-Pentanesulfonamide		52960-14-2		Raw material for pharmaceuticals


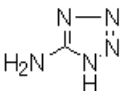
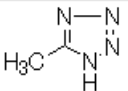
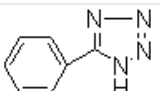
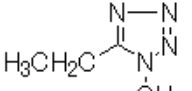
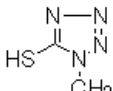
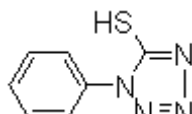
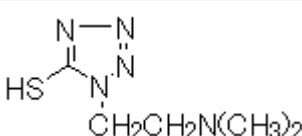
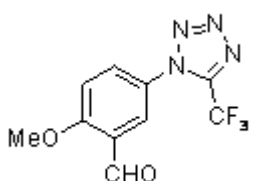
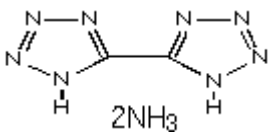
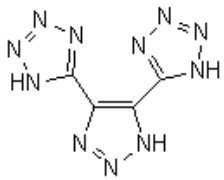
Fine Chemicals

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
Sulfinyl chlorides					
BSI	tert-Butylsulfinyl chloride	$\begin{array}{c} \text{CH}_3 \\ \\ \text{H}_3\text{C}-\text{C}-\text{SOCl} \\ \\ \text{CH}_3 \end{array}$	31562-43-3		Raw material for pharmaceuticals
Sulfinamides					
BSA	tert-Butyl-sulfinamide	$\begin{array}{c} \text{CH}_3 \\ \\ \text{H}_3\text{C}-\text{C}-\text{SONH}_2 \\ \\ \text{CH}_3 \end{array}$	196929-78-9		Raw material for pharmaceuticals
Sulfonic acids					
MSA	Methanesulfonic acid (100%,70%aq)	$\text{CH}_3\text{SO}_3\text{H}$	75-75-2	2-1582	Raw material for pharmaceuticals, agrochemicals, electronic industry
HSA-NA	1-Hexansulfonic acid sodium salt	$\text{CH}_3(\text{CH}_2)_5\text{SO}_3\text{Na}$	2832-45-3	2-3786	Raw material for photochemicals
OSA-NA	1-Octanesulfonic acid sodium salt	$\text{CH}_3(\text{CH}_2)_7\text{SO}_3\text{Na}$	5324-84-5	2-1640	Raw material for photochemicals
Thioureas					
TCH	Thiocarbohydrazide	$\begin{array}{c} \text{H}_2\text{NNHC} \\ \\ \text{S} \\ \text{NHNH}_2 \end{array}$	2231-57-4	2-1745	Raw material for photochemicals
GTU	Guanylthiourea	$\begin{array}{c} \text{NH} \\ \\ \text{H}_2\text{NC} \\ \\ \text{S} \\ \text{NHNH}_2 \end{array}$	2114-02-5	2-1780	Raw material for pharmaceuticals
HTU	Dicyclohexyl-thiourea		1212-29-9	3-2497	Raw material for chemicals
PTU	Phenylthiourea		103-85-5	3-3230	Raw material for chemicals

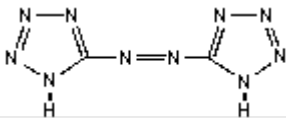
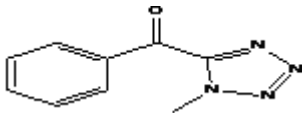
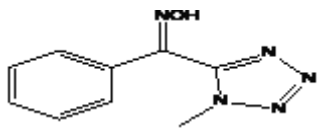
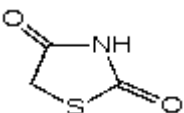
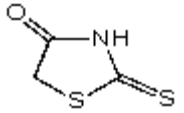
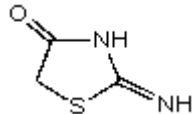
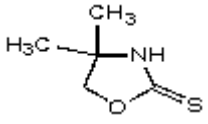
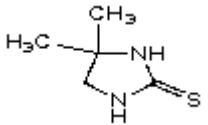
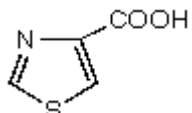
Fine Chemicals

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
Carbamic acids					
MTC	Sodium methyldithio-carbamate	CH_3NHCSNa 	137-42-8	2-1797	Raw material for pharmaceuticals
Thiadiazoles					
MTD	2,5-Dimercapto-1,3,4-thiadiazole		1072-71-5	5-556	Raw material for chemicals
TMT	2-Thioacetic acid-5-mercapto-1,3,4-thiadiazole		53723-88-9	-	Raw material for chemicals
TMT-2	2,5-Dithioacetic acid-1,3,4thiadiazole		30843-69-7	-	Raw material for chemicals
Azide compounds					
SA-3	Sodium azide	NaN_3	26628-22-8	1-482	Raw material for pharmaceuticals
DBSN	4-Dodecylbenzene-sulfonylazide (100%,70%Toluene solution)		79791-38-1	3-4380	Raw material for pharmaceuticals
ABSN	4-Acetyl-aminobenzenesulfonylazide		2158-14-7	-	Raw material for electronic industry
DPPA	Diphenyl-phosphoryl azide		26386-88-9	3-3359	Raw material for pharmaceuticals
TMSA	Trimethylsilyl azide	$(\text{CH}_3)_3\text{SiN}_3$	4648-54-8	-	Raw material for pharmaceuticals

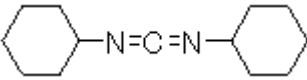
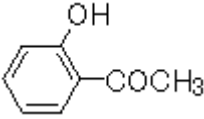
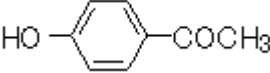
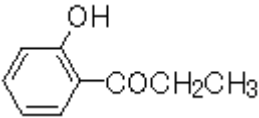
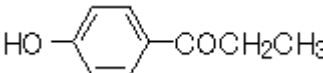
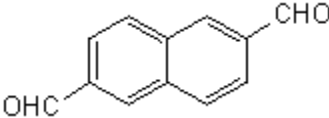
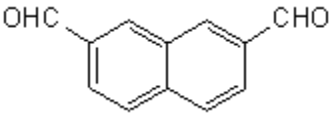
Fine Chemicals

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
Tetrazoles					
1HT	1H-Tetrazole		288-94-8	-	Protecting agent for pharmaceuticals
HAT	5-Amino-1H-tetrazole		4418-61-5	5-627	Raw material for electronic industry
M5T	5-Methyl-1H-tetrazole		4076-36-2	-	Raw material for pharmaceuticals
P5T	5-Phenyl-1H-tetrazole		18039-42-4	5-6042	Raw material for pharmaceuticals
1M5ET	1-Methyl-5-ethyl-1H-tetrazole		16681-77-9	-	Raw material for pharmaceuticals
MMT	1-Methyl-5-mercapto-1H-tetrazole		13183-79-4	5-5399	Raw material for pharmaceuticals
PMT	1-Phenyl-5-mercapto-1H-tetrazole		86-93-1	5-626	Raw material for photochemicals
DMT	1-(Dimethyl-aminoethyl)-5-mercapto-1H-tetrazole		61607-68-9	5-6307	Raw material for pharmaceuticals
MTBA	2-Methoxy-5-(5-trifluoromethyl-1-yl)benzaldehyde		168267-11-6	-	Raw material for pharmaceuticals
BHT-2NH3	5,5'-Bis-1H-tetrazole-diammonium salt		3021-02-1	5-6576	Gas forming agent
DTZT	4,5-Di(5-tetrazolyl)-[1,2,3]-triazole		869060-66-2	-	Gas forming agent

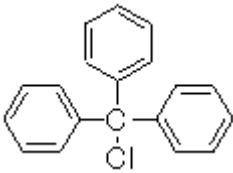
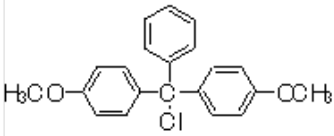
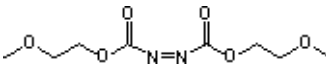
Fine Chemicals

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
ABHT	5,5'-Azobis-1H-tetrazole		28623-02-1	-	Gas forming agent
TZ	1-Methyl-5-benzoyl-1H-tetrazole		33452-25-4	-	Raw material for agrochemicals
TZOX	(1-Methyl-1H-tetrazol-5-yl) Phenylmethanone oxime(E+Z)		500206-49-5	-	Raw material for agrochemicals
Thiazolidines					
TDD	2,4-Thiazolidine-dione		2295-31-0	5-6527	Raw material for pharmaceuticals
RDN	2-Thio-4-thiazolidone		141-84-4	-	Raw material for pharmaceuticals
ITO	2-Imino-4-thiazolidinone		556-90-1	-	Raw material for pharmaceuticals
Other heterocyclic products					
DMO	4,4-Dimethyl-oxazoline-2-thione		54013-55-7	-	Raw material for pharmaceuticals
ETU	4,4-Dimethyl-imidazolidine-2-thione		6086-42-6	-	Raw material for pharmaceuticals
4TC	4-Thiazole-carboxylic acid		3973-08-8	-	Raw material for pharmaceuticals

Fine Chemicals

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
Carbodiimides					
DCC	N,N'-Dicyclohexyl-carbodiimid		538-75-0	3-2267	Coupling agent for pharmaceuticals
PCI	N,N'-Diisopropyl-carbodiimide	$(\text{H}_3\text{C})_2\text{HC}-\text{N}=\text{C}=\text{N}-\text{CH}(\text{CH}_3)_2$	693-13-0	-	Coupling agent for pharmaceuticals
EPCI	N-Ethyl-N'-(3-dimethyl-aminopropyl) carbodiimide monohydrochloride	$\text{H}_3\text{CH}_2\text{C}-\text{N}=\text{C}=\text{N}-(\text{CH}_2)_3\text{N}(\text{CH}_3)_2\text{HCl}$	25952-53-8	2-1696	Coupling agent for pharmaceuticals
Ketones					
OHA	2-Hydroxy-acetophenone		118-93-4	-	Raw material for pharmaceuticals
PHA	4-Hydroxy-acetophenone		99-93-4	3-4119	Raw material for pharmaceuticals
OHP	2-Hydroxy-propiofenone		610-99-1	3-2945	Raw material for pharmaceuticals
PHP	4-Hydroxy-propiofenone		70-70-2	9-2077	Raw material for Pharmaceuticals and agrochemicals
Dicarboxyaldehydes					
NDA	2,6-Naphthalene-dicarboxy-aldehyde		5060-65-1		Raw material for electronic industry
NDA-2	2,7-Naphthalene-dicarboxy-aldehyde		19800-49-8		Raw material for electronic industry

Fine Chemicals

Abbreviation	Chemical name	Chemical Formula	CAS NO.	MITI NO.	Main Applications
Other products					
TPC	Triylchloride		76-83-5	9-897	Protecting agent for pharmaceuticals
DTPC	4,4'-Dimethoxy triylchloride		40615-36-9	4-1881	Protecting agent for pharmaceuticals
POM	Pivaloyloxy -methylchloride	$(\text{CH}_3)_3\text{CCOOCH}_2\text{Cl}$	18997-19-8	-	Protecting agent for pharmaceuticals
DMEAD®	Di-2-methoxyethyl azodicarboxylate		940868-64-4		Mitsunobu Reagents
EIPS	2-(Ethylsulfonyl)-propane	$\text{C}_2\text{H}_5-\text{S}(=\text{O})_2-\text{CH}(\text{CH}_3)_2$	4853-75-2		Raw material for electronic industry
ESBS	2-(Ethylsulfonyl)-butane	$\text{C}_2\text{H}_5-\text{S}(=\text{O})_2-\text{CH}(\text{C}_2\text{H}_5)(\text{CH}_3)$	34008-92-9		Raw material for electronic industry