

SELECTRA-SIL[®] Derivatizing Reagents



These reagents are manufactured by Sepax-UCT to exact standards of purity and consistency.

Benefits of Derivatization:

- Improved chromatographic resolution - increased volatility - reduced intermolecular hydrogen bonding - separation of structurally similar compounds.
- Improved mass spectral characteristics - higher mass fragments - greater S/N (signal to noise ratio) - more unique masses- increased abundance/sensitivity of molecular ions.
- Improved thermal stability of some compounds - reduced thermal degradation - higher temperatures to speed analysis.
- Increased instrument and lab productivity - fewer reinjections or repeats due to peak tailing - high confidence in analyte identification and quantitation - easy to perform - inert by-products of derivatization will not degrade capillary column performance.

Product Recommendations:

Derivatizing reagents are sold bottled in airtight septum vials blanketed with nitrogen to maintain their activity. Contact with moisture can greatly reduce reactivity. **Protect from air and moisture.** Keep bottle tightly sealed when not in use.

It is critical that pipettes, glassware, vials, [etc. be](http://www.sepax-uct.com) free of water or alcohol before derivatization.

SELECTRA-SIL[®] Silylation Reagents



Silyl derivatives are the most widely used chemical derivatization reagents, especially for gas chromatography. Silyl derivatization requires an “Active” hydrogen as seen in acids, alcohols, thiols, amines, amides, enolizable ketones and aldehydes to be replaced by a trimethylsilyl group or tertiary butyl dimethylsilyl.

BSTFA			<ul style="list-style-type: none"> • Trimethylsilyl donor strength equal to BSA. • Reacts with the same classes of compounds as BSA producing the same derivatives. • Increased volatility of the reaction by-products over the non-fluorinated derivatives of BSA.
Part Number	Quantity	Units per pack	
SBSTFA-0-1	1 gm vial	10	
SBSTFA-0-10	10 gm vial	1	
SBSTFA-0-25	25 gm vial	1	
SBSTFA-0-100	100 gm vial	1	

SELECTRA-SIL[®] Silylation Reagents

BSTFA w/1% TMCS N,O-bis(trimethylsilyl)trifluoroacetamide w/1% Trimethylchlorosilane			<ul style="list-style-type: none"> • Trimethylsilyl donor strength equal to BSA. • Reacts with the same classes of compounds as BSA. producing the same derivatives. • TMCS (Trimethylchlorosilane) added to derivatize amides, many secondary amines and hindered hydroxyls that are not reactive to BSTFA alone. • Increased volatility of the reaction by-products over the non-fluorinated derivatives of BSA
Part Number	Quantity	Units per pack	
SBSTFA-1-1	1 gm vial	10	
SBSTFA-1-10	10 gm vial	1	
SBSTFA-1-25	100 gm vial	1	
BSTFA w/10% TMCS N,O-bis(trimethylsilyl)trifluoroacetamide w/10% Trimethylchlorosilane			<ul style="list-style-type: none"> • Trimethylsilyl donor strength equal to BSA. • Reacts with the same classes of compounds as BSA producing the same derivatives. • TMCS (Trimethylchlorosilane) added to derivatize amides, many secondary amines and hindered hydroxyls that are not reactive to BSTFA alone • Increased volatility of the reaction by-products over the non-fluorinated derivatives of BSA.
Part Number	Quantity	Units per pack	
SBSTFA-10-1	1 gm vial	10	
SBSTFA-10-10	10 gm vial	1	
SBSTFA-10-25	25 gm vial	1	
SBSTFA-10-100	100 gm vial	1	
MSTFA N-Methyl-N-trimethylsilyltrifluoroacetamide			<ul style="list-style-type: none"> • A trimethylsilyl adduct with donor strength equal to BSA and BSTFA. • Most volatile of the TMS derivatives. • Often elutes at the solvent front of the GC.
Part Number	Quantity	Units per pack	
SMSTFA-0-1	1 gm vial	10	
SMSTFA-0-10	10 gm vial	1	
SMSTFA-0-25	25 gm vial	1	
SMSTFA-0-100	100 gm vial	1	
MSTFA w/1% TMCS N-Methyl-N-trimethylsilyltrifluoroacetamide w/1% trimethylchlorosilane			<ul style="list-style-type: none"> • A trimethylsilyl adduct with donor strength equal to BSA and BSTFA. • Most volatile of the TMS derivatives. • Often elutes at the solvent front of the GC. • Addition of TMCS aids in the derivatization of amides, secondary amines and hindered Hydroxy groups.
Part Number	Quantity	Units per pack	
SMSTFA-1-1	1 gm vial	10	
SMSTFA-1-10	10 gm vial	1	
SMSTFA-1-25	25 gm vial	1	
SMSTFA-1-100	100 gm vial	1	
MTBSTFA N-Methyl-N-(tert-butyl)dimethylsilyl trifluoroacetamide			<ul style="list-style-type: none"> • Derivatizes hydroxyl, carboxyl, thiol and primary and secondary amines. • Derivatives are more stable than TMS derivatives to hydrolysis • Reaction by-products are neutral and volatile
Part Number	Quantity	Units per pack	
SMTBSTFA-0-1	1 gm vial	10	
SMTBSTFA-0-10	10 gm vial	1	
SMTBSTFA-0-25	25 gm vial	1	
SMTBSTFA-0-100	100 gm vial	1	

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MTBSTFA w/1% TBDMCS N-Methyl-N-(tert-butyldimethylsilyl) trifluoroacetamide w/ 1% tert-butyldimethylchlorosilane			<ul style="list-style-type: none"> • Derivatizes hydroxyl, carboxyl, thiol and primary and secondary amines. • Addition of TBDMCS (tertiary butyl-dimethylchlorosilane) increases the silylation ability of this reagent to derivatize hindered alcohols and amines. • Derivatives are more stable than TMS derivatives to hydrolysis • Reaction by-products are neutral and volatile.
Part Number	Quantity	Units per pack	
SMTBSTFA-1-1	1 gm vial	10	
SMTBSTFA-1-10	10 gm vial	1	
SMTBSTFA-1-25	25 gm vial	1	
SMTBSTFA-1-100	100 gm vial	1	
MTBSTFA w/10% TBDMCS N-Methyl-N-(tert-butyldimethylsilyl) trifluoroacetamide			<ul style="list-style-type: none"> • Derivatizes hydroxyl, carboxyl, thiol and primary and secondary amines. • Addition of TBDMCS (tertiary butyl-dimethylchlorosilane) increases the silylation ability of this reagent to derivatize hindered alcohols and amines. • Derivatives are more stable than TMS derivatives to hydrolysis. • Reaction by-products are neutral and volatile.
Part Number	Quantity	Units per pack	
SMTBSTFA-10-1	1 gm vial	10	
SMTBSTFA-10-10	10 gm vial	1	
SMTBSTFA-10-25	25 gm vial	1	
SMTBSTFA-10-100	100 gm vial	1	
TMCS Trimethylchlorosilane			<ul style="list-style-type: none"> • Catalysts used to increase the reactivity of other silylation reagents. • Used to form trimethylsilyl esters of organic acids.
Part Number	Quantity	Units per pack	
STMCS-0-1	1 gm vial	10	
STMCS-0-10	10 gm vial	1	
STMCS-0-25	25 gm vial	1	
STMCS-0-100	100 gm vial	1	