

# GC Derivatization Reagents



## Acylation Reagents

**HIGH PURITY FOR ECD** – Fluorinated anhydrides are the most widely used acylation reagents for electron capture detection. However, they are also used to make derivatives for FID and TCD. The anhydrides readily react with alcohols, phenols, and amines to produce stable, highly volatile derivatives. Regis fluorinated anhydrides are specially prepared and then packaged under nitrogen in amber serum vials and ampules in order to prevent hydrolysis and to minimize discoloration.

Cat.No.	Description	Size	Price
270841	TFAA (Trifluoroacetic Anhyd.)	10x 1g amp	
270843	Most volatile of the anhydrides	25g vial	
640110	PFPA	10x 1g amp	
640113	(Pentafluoropropionic Anhyd.)	25g vial	
640114	(Very popular ECD reagent)	100 vial	
270851	HFBA	10x 1g amp	
270853	(Heptafluorobutyric Anhydride)	25g vial	
270611	HFBI	5x 1g amp	
270612	(Heptafluorobutyrylimidazole)	5g vial	
270092	MBTFA	10 1g amp	
270091	(N-Methyl-bis-trifluoroacetamide)	5g	
270095		25g	
270093		10g	
270811	PFBCI	1g	
270812	(Pentafluorobenzoyl Chloride)	5g	
270813		25g	

## Derivatization Grade Solvents

Cat.No.	Description	Size	Price
270010	Acetonitrile	2 x 25mL bottle	
270011	Dimethylformamide	2 x 25mL bottle	
270013	Pyridine	2 x 25mL bottle	
270014	Tetrahydrofuran	2 x 25mL bottle	

## Alkylation Reagents

Alkylation involves the addition of an alkyl group to an active functional group. Esterification is the most popular alkylation method.

Common reagents include: TBH – to form butyl esters;  $\text{BF}_3$  / methanol and  $\text{BF}_3$  /n-butanol – to esterify organic acids. A variety of other alkylation reagents which facilitate analysis of unsaturated fatty acids and triglycerides in a biological matrix are used in extractive alkylation procedures.

3N Butanolic HCl is used for derivatizing amino acids and acylcarnites in infants blood to test their metabolism. Blood concentrations of one or several of these compounds are either elevated or decreased in a series of metabolic disorders.

Cat.No.	Description	Size	Price
680415	TBH (0.2M in Methanol) (Tetrabutylammonium hydroxide)	10mL	
270261	$\text{BF}_3$ /Methanol (14% w/v)	10x 1mL amp	
270260	$\text{BF}_3$ /Methanol (14% w/v)	100mL bottle	
270271	$\text{BF}_3$ /n-Butanol (14% w/v)	10x 1mL amp	
270270	$\text{BF}_3$ /n-Butanol (14% w/v)	100mL bottle	
201007	3 N Butanolic HCl	4x 25mL bottle	
R201010	3 N Butanolic HCl	500mL bottle	
300210	DMF-Diethylacetal	5mL bottle	
300220	DMF-Di-n-propylacetal	5mL bottle	
300230	DMF-Di-n-butylacetal	5mL bottle	

### Pentafluoropropanol

For preparation of ECD derivatives of acids.

270815	2, 2, 3, 3, 3-Pentafluoropropanol	5g vial	
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### EXTRACTIVE ALKYLATION REAGENTS

Pentafluorobenzoylation by extractive alkylation gives derivatives of phenols, carboxylic acids, and sulfonamides.

270587	Pentafluorobenzyl bromide (Caution: Lachrymator)	1g	
680500	Tetrabutylammonium H sulfate	25g	
680501	Tetrahexylammonium H sulfate	1g	
680511	Tetrahexylammonium H sulfate	10g	

## Optical Purity Analysis

Due to the lack of satisfactory, thermally stable, optically active GC stationary phases, the best approach to optical purity analysis by GC has been the formation of diastereomers before chromatography. This is accomplished by coupling the compound of interest with a suitable optically active reagent. The two most generally useful reagents in this area are N-trifluoroacetyl-L-propyl chloride (TCP) and methyl chloro-formate (MCF).

Cat.No.	Description	Size	Price
440001	TPC (N-TFA-L-Propyl chloride)	25mL	
440003	MCF [(-) Methylchloroformate]	25mL	