EPA Method 0010 and SW-846 3510/3542 and 8270C

Method 8270C and its associated extraction methods 3510 and 3542 are used for the extraction of filters and XAD cartridges from the EPA Modified Method 5 (MM5) sample train as described in EPA Method 0010 of surface wipe samples.

EAS does a modification of Method 0010 and Method 8270.

Table 13.14a
Summary of Extraction Method for EPA 0010

Parameter	**EAS Method 0010**	**EPA Method 0010**
Filter Extraction	Filter is Combined with XAD-2 Resin	1) Filter is Combined with front half rinse and extracted. 2) Condensate and Condensate rise are combined and extracted 3) XAD resin and back half rinse are combined and extracted
XAD Resin	XAD-2 Resin is extracted with dichloromethane (DCM) with the filter and surrogate added.	
Condensate (water)	Extracted with DCM in a separatory funnel with the Rinse. Combined with XAD Extract and Concentrated to 1 ml.	
Rinse (DCM)	Extracted with the Condensate	

Table 13.14b
Summary of QC Criteria for Method 8270C

Parameter	EAS 8270C Modified	8270C Method
DFTPP Tune	Every 12 hours	Every 12 hours
Tuning Criteria with DFTPP	8270C criteria 50 ng DFTPP	8270C 50 ng DFTPP
Initial Calibration	5 Points Minimum See Table 13.14e	5 Points Minimum, non-CCV compounds <15%RSD
Calibration Check Sample (CCS)	After Initial Calibration 90% of Target %R between 50-150%	After Initial Calibration
Continuing Calibration Verification (CCV)	24 hours – Midpoint on Curve See Table 13.14e	12 hours – Midpoint on Curve Same criteria as initial calibration
Internal Standard (IS)	RT +/-0.06 RRT units See Table 13.6c	Response 50-200%
Surrogate (lab)	See Table 13.14b	
Method Blank Solvent Blank	With batch of 20 Less than LOQ	<RL
Laboratory Control Spike	With batch of 20 samples See Table 13.14d	With each batch of up to 20 samples
Duplicate Sample Dup	With batch of 20 samples See Table 13.14e	

Table 13.14c
Method 8270C Surrogate Recoveries

Compound	Recovery (%R)
Nitrobenzene-d5	35-114
2-Fluorobiphenyl	21-110
p-Terphenyl-d14	33-141
Phenol d5	10-110

Table 13.6d
Internal Standards

Compound	Recovery %
1,4-Dichlorobenzene-d4	50- 200
Naphthalene-d8	50- 200
Acenaphthene-d10	50- 200
Phenanthrene-d10	50- 200
Chrysene-d12	50- 200
Perylene-d12	50- 200

Table 13.6e
Extracted Laboratory Control Standards

Analyte	LCS %R
1,4-dichlorobenzene	36-97
N-nitrosodi-n-propylamine	41-116
1,2,4-trichlorobenzene	39-98
2,4-dinitrotoluene	24-96
acenaphthene	46-118
pyrene	26-127

Table 13.14f
Method 8270C Compound List

Analyte	Full Scan LOQ ug	Criteria	
		ICAL %D	CCV %D
bis(2-chloroethyl)ether	1.0	<30	<30
1,3-dichlorobenzene	0.5	<30	<30
1,4-dichlorobenzene	1.0	<30	**<20**
1,2-dichlorobenzene	1.0	<30	<30
bis(2-chloroisopropyl)ether	1.0	<30	<30
hexachloroethane	1.0	<30	<30
N-nitrosodi-n-propylamine	1.0	<30	**RF>0.050**
nitrobenzene	1.0	<30	<30
isophorone	1.0	<30	<30
bis(2-chloroethoxy)methane	1.0	<30	<30
1,2,4-trichlorobenzene	1.0	<30	<30
naphthalene	1.0	<30	<30
hexachlorobutadiene	1.0	<30	**<20**
hexachlorocyclopentadiene	1.0	<30	**RF>0.050**
2-chloronaphthalene	1.0	<30	<30
dimethyl phthalate	1.0	<30	<30
2,6-dinitrotoluene	1.0	<30	<30
acenaphthene	1.0	<30	**<20**
2,4-dinitrotoluene	1.0	<30	<30
fluorene	1.0	<30	<30
diethyl phthalate	1.0	<30	<30
4-chlorophenyl phenyl ether	1.0	<30	<30
azobenzene	1.0	<30	<30
4-bromophenyl phenyl ether	1.0	<30	<30
hexachlorobenzene	1.0	<30	<30
phenanthrene	1.0	<30	<30
anthracene	1.0	<30	<30
di-n-butyl phthalate	1.0	<30	<30
fluoranthene	1.0	<30	**<20**
pyrene	1.0	<30	<30
butyl benzyl phthalate	1.0	<30	<30
chrysene	1.0	<30	<30
benz[a]anthracene	1.0	<30	<30
bis(2-ethylhexyl)phthalate	1.0	<30	<30
di-n-octyl phthalate	1.0	<30	**<20**
benzo(b)fluoranthene	1.0	<30	<30
benzo(k)fluoranthene	1.0	<30	<30
benzo(a)pyrene	1.0	<30	**<20**
indeno(1,2,3-cd)pyrene	1.0	<30	<30
dibenz(a,h)anthracene	1.0	<30	<30
benzo(g,h,i)perylene	1.0	<30	<30

Compounds in bold are either CCC or SPCC