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APPENDIX 4-A2B

RECOMMENDATIONS FOR MIS FIELD PRESERVATION OR LABORATORY SUBSAMPLING BASED ON OVERALL CHEMICAL STABILITY

PHYSIOCHEMICAL CONSTANTS FOR TARGETED PAHS

³ Targeted PAHs	¹ PhysicalState	Molecular Weight	² VaporPressure mm Hg (25C)	Henry's Law Constant (H) (atm-m ³ /mol)	
Semi-Volatile PAHs (VP 0.1 to 1.0 OR Liquid at 25C OR Henry's Constant >1.0E-05) ^{3,4} Subsample Multi Increment Bulk Sample at Laboratory Upon Receipt Without Drying					
ACENAPHTHENE	*SV	S	154	2.2E-03	1.8E-04
ACENAPHTHYLENE	*SV	S	152	6.7E-03	1.5E-03
ANTHRACENE	*SV	S	178	6.6E-06	5.6E-05
FLUORENE	*SV	S	166	3.2E-04	9.5E-05
METHYLNAPHTHALENE, 1-	*SV	S	142	6.7E-02	5.1E-04
METHYLNAPHTHALENE, 2-	*SV	S	142	5.5E-02	5.1E-04
NAPHTHALENE	*SV	S	128	8.5E-02	4.4E-04
PHENANTHRENE	*SV	S	178	1.2E-04	3.9E-05
PYRENE	*SV	S	202	4.5E-06	1.2E-05
Non-Volatile PAHs (VP <0.1 AND Solid at 25C AND Henry's Constant <1.0E-05) ⁴ Dry and Sieve Multi Increment Samples for Preparation of Aliquots					

BENZO(a)ANTHRACENE	NV	S	228	5.0E-09	1.2E-05
BENZO(a)PYRENE	NV	S	252	5.5E-09	4.6E-07
BENZO(b)FLUORANTHENE	NV	S	252	5.0E-07	6.6E-07
BENZO(g,h,i)PERYLENE	NV	S	276	–	1.4E-07
BENZO(k)FLUORANTHENE	NV	S	252	9.7E-10	5.9E-07
CHRYSENE	NV	S	228	6.2E-09	5.1E-06
DIBENZO(a,h)ANTHTRACENE	NV	S	278	9.6E-10	1.2E-07
FLUORANTHENE	NV	S	202	9.2E-06	8.8E-06
INDENO(1,2,3-cd)PYRENE	NV	S	276	1.2E-10	3.4E-07

Reference: Appendix 1, Table H in HEER Office Environmental Hazard Evaluation guidance ([HDOH, 2016](#)).

1. Physical state of chemical at ambient conditions (V – volatile, SV – Semi-Volatile (*SV – Treated as “volatile” in USEPA risk assessment models if H >0.00001), S – solid, L – liquid, G – gas).
2. Vapor Pressures from National Library of Medicine TOXNET or ChemID databases.
3. PAHS – Eighteen targeted PAHs listed in [Section 9](#) of the HEER Office TGM. Recommendation to subsample the Multi Increment sample without drying applies primarily to acenaphthene, acenaphthylene, anthracene, fluorene, methylnaphthalenes, naphthalene and phenanthrene and pyrene.
4. Soil or sediment samples that consist entirely of <2mm material *do not* require drying and sieving to address fundamental error concerns, although some degree of drying and sieving may be desirable by the laboratory for testing purposes.