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APPENDIX 4-A2A

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

SEMI-VOLATILE OR OTHERWISE UNSTABLE CHEMICALS RE- QUIRING LABORATORY SUBSAMPLING OF SOIL SAMPLES PRIOR TO PROCESSING

CHEMICAL PARAMETER	¹ Physical State		Molecular Weight	² Vapor Pressure mm Hg (25C)	Henry's Law Constant (H) (atm-m ³ /mol)
SEMI-VOLATILE AND OTHER SEMI-STABLE CHEMICALS					
^{3,4} Subsample Multi Increment Bulk Sample at Laboratory Upon Receipt Without Drying (VP 0.1 to 1.0 OR Liquid at 25C OR Henry's Constant >1.0E-05)					
BIPHENYL, 1,1-	*SV	S	154	8.9E-03	3.2E-04
BIS(2-CHLOROISOPROPYL)ETHER	*SV	L	171	8.5E-01	1.1E-04
DALAPON	*SV	L	143	1.9E-01	9.0E-08
DIBROMO,1,2-CHLOROPROPANE,3-	*SV	L	236	5.8E-01	1.5E-04
DIMETHYLPHENOL, 2,4-	SV	S	122	1.0E-01	9.5E-07
HEXACHLOROBUTADIENE	SV	S	261	2.2E-01	1.0E-02
HEXACHLOROETHANE	SV	S	237	4.0E-01	3.9E-03
ISOPHORONE	SV	L	138	4.4E-01	6.6E-06

☿MERCURY	*SV	S	201	2.0E-03	–
METHYL MERCURY	SV	S	216	–	–
NITROBENZENE	*SV	L	123	2.5E-01	2.4E-05
NITROGLYCERIN	SV	L	227	2.0E-04	9.8E-08
NITROTOLUENE, 4-	SV	S	137	1.6E-01	5.6E-06
NITROTOLUENE, 2-	*SV	S	137	1.9E-01	1.2E-05
NITROTOLUENE, 3-	*SV	S	137	2.1E-01	2.4E-05
☿PAHs (varies, see Table 4-2b)	*SV	S			
PHENOL	SV	S	94	3.5E-01	3.4E-07
PROPICONAZOLE	SV	L	342	1.0E-06	4.1E-09
☿TPH (middle distillates)	*SV	L	170	2 to 26	7.2E-04
TRICHLOROBENZENE, 1,2,4-	*SV	S	181	4.6E-01	1.4E-03

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. Check with lab to determine feasibility of wet sieving sample to remove >2mm particles prior to subsampling.
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.
5. The stability of a targeted metal depends in part on the species present and can be highly variable. Identification of specific species of a metal may require the collection of aliquots prior to drying and sieving and should be evaluated on a site-by-site basis with respect to the site investigation objectives.
6. PAHS – See [Table 4-A2b](#). Eighteen targeted PAHs listed in [Section 9](#) of the HEER Office TGM.
7. TPH diesel may not be adequately extractable from soil or sediment when placed in methanol; aliquots should be collected and extracted at the laboratory (e.g., using methylene chloride).