Combined Target Analyte List for MCP Analytical Protocols
(Revised April 2010)

The individual Target Analyte Lists that have been developed for all MCP Analytical Protocols have been included in this Combined Target Analyte List. Compounds included in the method-specific Target Analyte Lists are potential contaminants that are readily-analyzable by the subject protocol. The combined list was developed to provide a single reference source for analytes that are commonly encountered at disposal sites with a cross-reference to the appropriate MCP Analytical Protocol(s). The Combined Target Analyte List will be updated as additional protocols are added to or protocol-specific Target Analyte Lists are revised in the Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods (http://www.mass.gov/dep/cleanup/laws/qaqcdocs.htm).

The MCP Method 1 Groundwater/Soil Standards are described in 310 CMR 40.0974(2), Table 1, and are used to evaluate the risk of harm posed by oil or hazardous materials at a disposal site. This list of groundwater/soil standards, developed by the Department for over one hundred commonly encountered organic and inorganic contaminants, takes into account a defined set of conservative potential exposure pathways likely to be encountered at most disposal sites. The MCP Method 1 Groundwater/Soil Standards list is continually reviewed and updated by the Department. When compounds are added to the MCP Method 1 Groundwater/Soil Standards list that are suitable for analysis by the MCP Analytical Protocols, the Combined Target Analyte List will be updated accordingly.

Protocol-specific MCP Target Analyte Lists specify the minimum number of analytes that should be reported for MCP decision-making for the assessment of disposal sites with an indeterminate characterization or history. Notwithstanding, if in the professional judgment of the data user and based upon the specific conditions and/or characteristics of a disposal site, a protocol-specific Target Analyte List may be modified. However, any modification of the analyte list must be documented by the data user.

It should be noted that if site-specific contaminants of concern are identified that are not included on a protocol-specific Target Analyte List, then these additional analytes must also be incorporated into the sampling plan and analytical program with appropriate calibration and QA/QC verification. In every case, the Reporting Limit (based on the concentration of the lowest calibration standard) for each contaminant of concern must be less than or equal to the MCP standards or criteria that the contaminant concentrations are being compared to (e.g., Method 1 Standards, background determination, etc.). In some cases, this may require analytical modifications, such as increased sampling weight or volume, to increase sensitivity. All such modifications must be reported by the data user.

Target Analyte	Analyte Type	CASRN	Analytical Method
Acenaphthene	Semi-Volatile	83329	8270D, EPH
Acenaphthylene	Semi-Volatile	208968	8270D, EPH
Acetone	Volatile	67641	8260B, TO-15
Acetophenone	Semi-Volatile	98862	8270D
Aldrin	Chlorinated Pesticide	309002	8081B
Aliphatic Hydrocarbons, C_{19}-C_{36}	Semi-Volatile	n/a	EPH
Aliphatic Hydrocarbons, C_5-C_8	Volatile	n/a	VPH, APH
Aliphatic Hydrocarbons, C_9-C_{12}	Volatile	n/a	VPH, APH
Aliphatic Hydrocarbons, C_9-C_{18}	Semi-Volatile	n/a	EPH
Amino-2,6-dinitrotoluene- 4 (4 - Am - DNT)	Nitroaromatics & Nitramines	1946510	8330A
Amino-4,6-dinitrotoluene - 2 (2 - Am - DNT)	Nitroaromatics & Nitramines	35572782	8330A
Amyl Methyl Ether, tert- (TAME)	Volatile	994058	8260B
Aniline	Semi-Volatile	62533	8270D
Anthracene	Semi-Volatile	120127	8270D, EPH
Antimony	Metal	7440360	6010C, 6020A, 7010
Aroclor 1016	PCB	12674112	8082A
Aroclor 1221	PCB	11104282	8082A
Aroclor 1232	PCB	11141165	8082A
Aroclor 1242	PCB	53469219	8082A
Aroclor 1248	PCB	12672296	8082A
Aroclor 1254	PCB	11097691	8082A
Aroclor 1260	PCB	11096825	8082A
Aroclor 1262	PCB	37324235	8082A
Aroclor 1268	PCB	11100144	8082A
Aromatic Hydrocarbons C_9-C_{10}	Volatile	n/a	VPH, APH
Aromatic Hydrocarbons C_{11}-C_{22}	Semi-Volatile	n/a	EPH
Arsenic	Metal	7440382	6010C, 6020A, 7010
Azobenzene	Semi-Volatile	103333	8270D
Barium	Metal	7440393	6010C, 6020A, 7010
Benzo(a)anthracene	Semi-Volatile	56553	8270D, EPH
Benzene	Volatile	71432	8260B, VPH, APH, TO-15
Benzo(a)pyrene	Semi-Volatile	50328	8270D, EPH
Benzo(b)fluoranthene	Semi-Volatile	205992	8270D, EPH
Benzo(g,h,i)perylene	Semi-Volatile	191242	8270D, EPH
Benzo(k)fluoranthene	Semi-Volatile	207089	8270D, EPH
Beryllium	Metal	7440417	6010C, 6020A, 7010
BHC, alpha-	Chlorinated Pesticide	319846	8081B
BHC, beta-	Chlorinated Pesticide	319857	8081B
BHC, gamma- (Lindane)	Chlorinated Pesticide	58899	8081B
BHC, delta -	Chlorinated Pesticide	319868	8081B
bis(2-Chloroethoxy)methane	Semi-Volatile	111911	8270D
bis(2-Chloroethyl)ether	Semi-Volatile	111444	8270D
bis(2-Chloroisopropyl)ether	Semi-Volatile	108601	8270D
bis(2-Ethylhexyl) phthalate	Semi-Volatile	117817	8270D
Bromobenzene	Volatile	108861	8260B
Bromochloromethane	Volatile	74975	8260B
Bromodichloromethane	Volatile	75274	8260B, TO-15
Bromoform	Volatile	75252	8260B, TO-15

Target Analyte	Analyte Type	CASRN	Analytical Method
Bromomethane	Volatile	74839	8260B, TO-15
Bromophenyl phenyl ether - 4	Semi-Volatile	101553	8270D
Butadiene, 1,3-	Volatile	106990	APH
Butylbenzene, n-	Volatile	104518	8260B
Butylbenzene, sec-	Volatile	135988	8260B
Butylbenzene, tert-	Volatile	98066	8260B
Butyl benzyl phthalate	Semi-Volatile	85687	8270D
Cadmium	Metal	7440439	6010C, 6020A, 7010
Carbon Disulfide	Volatile	75150	8260B
Carbon Tetrachloride	Volatile	56235	8260B, TO-15
Chlordane (nos), multi-component mixture	Chlorinated Pesticide	57749	8081B
Chloroaniline, 4-	Semi-Volatile	106478	8270D
Chlorobenzene	Volatile	108907	8260B, TO-15
Chlorodibromomethane	Volatile	124481	8260B, TO-15
Chloroethane	Volatile	75003	8260B
Chloroform	Volatile	67663	8260B, TO-15
Chloromethane	Volatile	74873	8260B
Chloronaphthalene, 2-	Semi-Volatile	91587	8270D
Chlorophenol, 2-	Semi-Volatile	95578	8270D
Chlorotoluene, 2-	Volatile	95498	8260B
Chlorotoluene, 4-	Volatile	106434	8260B
Chromium (Total)	Metal	7440473	6010C, 6020A, 7010
Chromium (Hexavalent)	Metal	18540299	7196A
Chrysene	Semi-Volatile	218019	8270D, EPH
Cyanide, Total	Miscellaneous Wet Chemical	57125	9012B, 9014, SM4500 CN
Cyanide, Physiologically Available (PAC)	Miscellaneous Wet Chemical	N/A	9012B, 9014, SM4500 CN
DDD, 4,4'-	Chlorinated Pesticide	72548	8081B
DDE, 4,4'-	Chlorinated Pesticide	72559	8081B
DDT, 4,4'-	Chlorinated Pesticide	50293	8081B
Diamino-4-nitrotoluene - 2,6 (2,6-Dam-4NT)	Nitroaromatics & Nitramines	59299753	8330A
Diamino-6-nitrotoluene-2,4 (2,4-Dam-6NT)	Nitroaromatics & Nitramines	6629294	8330A
Dibenz(a,h)anthracene	Semi-Volatile	53703	8270D, EPH
Dibenzofuran	Semi-Volatile	132649	8270D
1,2-Dibromo-3-chloropropane	Volatile	96128	8260B
Dibromoethane, 1,2- (EDB), Ethylene Dibromide	Volatile	106934	8260B, TO-15
Dibromomethane	Volatile	74953	8260B
Dichloro-6-methoxybenzoic acid, 2,5- (Dicamba)	Herbicide	1918009	8151A
Dichlorobenzene, 1,2- (o-DCB)	Volatile/Semi-Volatile	95501	8260B, 8270D, TO-15
Dichlorobenzene, 1,3- (m-DCB)	Volatile/Semi-Volatile	541731	8260B, 8270D, TO-15
Dichlorobenzene, 1,4- (p-DCB)	Volatile/Semi-Volatile	106467	8260B, 8270D, TO-15
Dichlorobenzidine, 3,3'-	Semi-Volatile	91941	8270D
Dichlorodifluoromethane (Freon 12)	Volatile	75718	8260B
Dichloroethane, 1,1-	Volatile	75343	8260B, TO-15
Dichloroethane 1,2-	Volatile	107062	8260B, TO-15

Target Analyte	Analyte Type	CASRN	Analytical Method
Dichloroethylene, cis-1,2-	Volatile	156592	8260B, TO-15
Dichloroethylene, trans-1,2-	Volatile	156605	8260B, TO-15
Dichloroethylene, 1,1-	Volatile	75354	8260B, TO-15
Dichlorophenol, 2,4-	Semi-Volatile	120832	8270D
Dichlorophenoxy acetic acid, 2,4- (2,4-D)	Herbicide	94757	8151A
Dichlorophenoxy butyric acid, 2,4- (2,4-DB)	Herbicide	94826	8151A
2-(2,4-Dichlorophenoxy) propionic acid (Dichloroprop)	Herbicide	120365	8151A
Dichloropropane, 1,2-	Volatile	78875	8260B, TO-15
Dichloropropane, 1,3-	Volatile	142289	8260B
Dichloropropane, 2,2-	Volatile	594207	8260B
Dichloropropene, 1,1 -	Volatile	563586	8260B
Dichloropropene, cis-1,3-	Volatile	10061016	8260B, TO-15
Dichloropropene, trans-1,3-	Volatile	10061015	8260B, TO-15
2,2-Dichloro propionic acid (Dalapon)	Herbicide	75990	8151A
Dieldrin	Chlorinated Pesticide	60571	8081B
Diethyl Ether	Volatile	60297	8260B
Diethyl phthalate	Semi-Volatile	84662	8270D
Diisopropyl Ether (DIPE)	Volatile	108203	8260B
Dimethyl phthalate	Semi-Volatile	131113	8270D
Dimethylphenol, 2,4-	Semi-Volatile	105679	8270D
Di-n-butylphthalate	Semi-Volatile	84742	8270D
Dinitrobenzene, 1,3 – (DNB)	Nitroaromatics & Nitramines	99650	8330A
Dinitrophenol, 2,4-	Semi-Volatile	51285	8270D
2,4-Dinitro-6-sec-butylphenol (Dinoseb)	Herbicide	88857	8151A
Dinitrotoluene, 2,4- (2,4 - DNT)	Semi-Volatile, Nitroaromatics & Nitramines	121142	8270D, 8330A
Dinitrotoluene, 2,6- (2,6 - DNT)	Semi-Volatile, Nitroaromatics & Nitramines	606202	8270D, 8330A
Di-n-octylphthalate	Semi-Volatile	117840	8270D
Dioxane, 1,4-	Volatile, Semi-Volatile	123911	8260B, 8270D, TO-15
Endosulfan I	Chlorinated Pesticide	959988	8081B
Endosulfan II	Chlorinated Pesticide	33213659	8081B
Endosulfan Sulfate	Chlorinated Pesticide	1031078	8081B
Endrin	Chlorinated Pesticide	72208	8081B
Endrin Ketone	Chlorinated Pesticide	53494705	8081B
Ethylbenzene	Volatile	100414	8260B, VPH, APH, TO-15
Ethyl tert-Butyl Ether (ETBE)	Volatile	637923	8260B
Fluoranthene	Semi-Volatile	206440	8270D, EPH
Fluorene	Semi-Volatile	86737	8270D, EPH
Heptachlor	Chlorinated Pesticide	76448	8081B
Heptachlor Epoxide	Chlorinated Pesticide	1024573	8081B
Hexachlorobenzene	Semi-Volatile/Chlorinated Pesticide	118741	8270D, 8081B
Hexachlorobutadiene	Volatile/Semi-Volatile	87683	8260B, 8270D, TO-15
Hexachloroethane	Semi-Volatile	67721	8270D
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX [Cyclonite])	Nitroaromatics & Nitramines	121824	8330A
Hexanone, 2- (MNBK)	Volatile	591786	8260B

Target Analyte	Analyte Type	CASRN	Analytical Method
Indeno(1,2,3-c,d)pyrene	Semi-Volatile	193395	8270D, EPH
Isophorone	Semi-Volatile	78591	8270D
Isopropylbenzene (Cumene)	Volatile	98828	8260B
Isopropyltoluene, p-	Volatile	99876	8260B
Lead	Metal	7439921	6010C, 6020A, 7010
Mercury	Metal	7439979	7470A, 7471B
Methoxychlor	Chlorinated Pesticide	72435	8081B
Methyl-4-chlorophenoxy, 2- acetic acid (MCPA)	Herbicide	94746	8151A
2-(2-Methyl-4-chlorophenoxy) propionic acid (MCPP)	Herbicide	93652	8151A
Methyl Ethyl Ketone (MEK)	Volatile	78933	8260B, TO-15
Methyl Isobutyl Ketone (MIBK)	Volatile	108101	8260B, TO-15
Methyl Tertiary Butyl Ether (MtBE)	Volatile	1634044	8260B, VPH, APH, TO-15
Methylene Chloride	Volatile	75092	8260B, TO-15
Methylnaphthalene, 2-	Semi-Volatile	91576	8270D, EPH
Methylphenol, 2-	Semi-Volatile	95487	8270D
Methylphenol, 3-	Semi-Volatile	108394	8270D
Methylphenol, 4-	Semi-Volatile	106445	8270D
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	Nitroaromatics & Nitramines	479458	8330A
Naphthalene	Volatile/Semi-Volatile	91203	8260B, 8270D, EPH, VPH, APH, TO-15
Nickel	Metal	7440020	6010C, 6020A, 7010
Nitrobenzene (NB)	Semi-Volatile	98953	8270D, 8330A
Nitroglycerin	Nitroaromatics & Nitramines	55630	8330A
Nitrophenol, 2-	Semi-Volatile	88755	8270D
Nitrophenol, 4-	Semi-Volatile	100027	8270D
Nitrotoluene, - 2- (2 - NT)	Nitroaromatics & Nitramines	88722	8330A
Nitrotoluene, 3- (3 - NT)	Nitroaromatics & Nitramines	99081	8330A
Nitrotoluene, 4- (4 - NT)	Nitroaromatics & Nitramines	99990	8330A
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	Nitroaromatics & Nitramines	2691410	8330A
Pentachlorophenol	Semi-Volatile/Herbicide	87865	8270D, 8151A
Pentaerythritol tetranitrate (PETN)	Nitroaromatics & Nitramines	78115	8330A
Perchlorate	Miscellaneous Wet Chemical	14797730	6850, 6860, 331.0, 332.0
Phenanthrene	Semi-Volatile	85018	8270D, EPH
Phenol	Semi-Volatile	108952	8270D
Picric Acid (Trinitrophenol)	Nitroaromatics & Nitramines	88891	8330A
Propylbenzene, n-	Volatile	103651	8260B
Pyrene	Semi-Volatile	129000	8270D, EPH
Selenium	Metal	7782492	6010C, 6020A, 7010
Silver	Metal	7440224	6010C, 6020A, 7010
Styrene	Volatile	100425	8260B, TO-15
Tetrachloroethane, 1,1,1,2-	Volatile	630206	8260B
Tetrachloroethane, 1,1,2,2-	Volatile	79345	8260B, TO-15
Tetrachloroethylene	Volatile	127184	8260B, TO-15
Tetrahydrofuran (THF)	Volatile	109999	8260B
Thallium	Metal	7440280	6010C, 6020A, 7010
Toluene	Volatile	108883	8260B, VPH, APH, TO-15

Target Analyte	Analyte Type	CASRN	Analytical Method
Trichlorobenzene, 1,2,4-	Volatile/Semi-Volatile	120821	8260B, 8270D, TO-15
Trichlorobenzene, 1,2,3-	Volatile	87616	8260B
Trichloroethane, 1,1,1-	Volatile	71556	8260B, TO-15
Trichloroethane, 1,1,2-	Volatile	79005	8260B, TO-15
Trichloroethylene	Volatile	79016	8260B, TO-15
Trichlorofluoromethane (Freon 11)	Volatile	75694	8260B
Trichlorophenol, 2,4,5-	Semi-Volatile	95954	8270D
Trichlorophenol, 2,4,6-	Semi-Volatile	88062	8270D
Trichlorophenoxy acetic acid, 2,4,5- (2,4,5-T)	Herbicide	93765	8151A
Trichlorophenoxy propionic acid, 2,4,5- (2,4,5-TP, Silvex)	Herbicide	93721	8151A
Trichloropropane, 1,2,3-	Volatile	96184	8260B
Trimethylbenzene, 1,2,4-	Volatile	95636	8260B
Trimethylbenzene, 1,3,5-	Volatile	108678	8260B
Trinitrobenzene, 1,3,5- (1,3,5-TNB)	Nitroaromatics & Nitramines	99354	8330A
Trinitrotoluene, 2,4,6- (TNT)	Nitroaromatics & Nitramines	118967	8330A
Vanadium	Metal	7440622	6010C, 6020A, 7010
Vinyl Chloride	Volatile	75014	8260B, TO-15
Xylene, m-	Volatile	108383	8260B, VPH, APH, TO-15
Xylene, o-	Volatile	95476	8260B, VPH, APH, TO-15
Xylene, p-	Volatile	106423	8260B, VPH, APH, TO-15
Zinc	Metal	7440666	6010C, 6020A, 7010