

# EPA 美國環境保護署環境檢測方法

## GC 分離管柱對照表

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### EPA DRINKING WATER TEST METHODS, EPA 500 SERIES

METHOD NO.	METHOD TITLE	Agilent COLUMN RECOMMENDED	QUADREX COLUMN RECOMMENDATION
501.3	Measurement of Trihalomethanes in Drinking Water with GC/MS and SIM	DB <sup>TM</sup> -624, 75m x 0.53mm I.D., 3.0 μm DB-VRX, 75m x 0.45mm I.D., 2.55 μm	007-624, 75m x 0.53mm I.D., 3.0 μm
502.2+	Volatile Halogenated Organic Compounds in Water by Purge and Trap Gas Chromatography	DB-624, 75m x 0.53mm I.D., 3.0 μm DB-VRX, 75m x 0.45mm I.D., 2.55 μm	007-624, 75m x 0.53mm I.D., 3.0 μm
503.1	Volatile Aromatics and Unsaturated Organic Compounds in Water by Purge and Trap Gas Chromatography	DB-624, 30m x 0.53mm I.D., 3.0 μm DB-VRX, 30m x 0.45mm I.D., 2.55 μm	007-624, 30m x 0.53mm I.D., 3.0 μm
504	1,2-Dibromoethane (EDB) and 1,2-Dibromo-3chloropropane (DBCP) in Water by Microextraction and Gas Chromatography by ECD	DB-624, 30m x 0.25mm I.D., 1.4 μm DB-624, 30m x 0.53mm I.D., 3.0 μm DB-VRX, 30m x 0.45mm I.D., 2.55 μm	007-624, 30m x 0.25mm I.D., 1.4 μm 007-624, 30m x 0.53mm I.D., 3.0 μm
505	Analysis of Organohalide Pesticides and Aroclors in Drinking Water by Microextraction and Gas Chromatography	DB-1*, 30m x 0.32mm I.D., 1.0 μm DX-3*, 30m x 0.32mm I.D., 0.25 μm DB-17, 30m x 0.32mm I.D., 0.50 μm	007-1, 30m x 0.32mm I.D., 1.0 μm
507	Determination of Nitrogen and Phosphorus Containing Pesticides in Water by Gas Chromatography with a Nitrogen-Phosphorus Detector (NPD)	DB-5*, 30m x 0.25mm I.D., 0.25 μm DB-5ms, 30m x 0.25mm I.D., 0.25 μm DB-1701*, 30m x 0.25mm I.D., 0.25 μm	007-5, 30m x 0.25mm I.D., 0.25 μm 007-1701, 30m x 0.25mm I.D., 0.25 μm
508	Determination of Chlorinated Pesticides in Water by Gas Chromatography with an Electron Capture Dectector (ECD)	DB-5ms, 30m x 0.25mm I.D., 0.25 μm DB-608, 30m x 0.32mm I.D., 0.50 μm DB-1701*, 30m x 0.25mm I.D., 0.25 μm	007-5MS, 30m x 0.25mm I.D., 0.25 μm 007-1701, 30m x 0.25mm I.D., 0.25 μm
513	2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin	DB-Dioxin <sup>TM</sup> , 60m x 0.25mm I.D., 0.15 μm DB-Dioxin <sup>TM</sup> , 60m x 0.32mm I.D., 0.19 μm	007-DXN, 60m x 0.25mm I.D., 0.15 μm
515, 515.2	Determination of Chlorinated Acids in Water Using Liquid-Solid Extraction and Gas Chromatography with an Electron Capture Detector (ECD)	DB-1*, 30m x 0.32mm I.D., 0.25 μm DB-5ms, 30m x 0.32mm I.D., 0.25 μm DB-1701*, 30m x 0.32mm I.D., 0.25 μm	007-1, 30m x 0.32mm I.D., 0.25 μm 007-5MS, 30m x 0.32mm I.D., 0.25 μm 007-1701, 30m x 0.32mm I.D., 0.25 μm
524.2+	Measurement of Purgeable Organic Compounds in Water by Purge and Trap Capillary Column GC/MS	DB-624*, 30m x 0.53mm I.D., 3.0 μm DB-5ms, 30m x 0.25mm I.D., 1.0 μm DB-VRX, 75m x 0.45mm I.D., 2.55 μm	007-624, 30m x 0.53mm I.D., 3.0 μm 007-5MS, 30m x 0.25mm I.D., 0.25 μm
525	Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column GC/MS	DB-XLB, 30m x 0.25mm I.D., 0.25 μm DB-5ms, 30m x 0.25mm I.D., 1.0 μm DB-5.625, 30m x 0.32mm I.D., 0.25 μm	007-5MS, 30m x 0.25mm I.D., 1.0 μm 007-5, 30m x 0.32mm I.D., 0.25 μm
548.1	Determination of Endothall in Drinking Water by Ion Exchange Extraction, Acidic Methanol, Methylation Gas Chromatography / Mass Spectrometry	DB-5ms, 30m x 0.25mm I.D., 0.25 μm DB-5ms, 30m x 0.32mm I.D., 0.25 μm DB-VRX, 30m x 0.45mm I.D., 2.55 μm	007-5MS, 30m x 0.25mm I.D., 0.25 μm
551	Chlorination Disinfection by products and Chlorinated Solvents in Drinking Water by a Liquid-Liquid Extraction Procedure	DB1*, 30m x 0.32mm I.D., 1.0 μm DB-200, 30m x 0.32mm I.D., 0.50 μm DB-5ms, 30m x 0.25mm I.D., 1.0 μm	007-1, 30m x 0.32mm I.D., 1.0 μm
552, 552.1	Determination of Haloacetic Acids and Dalapon in Drinking Water by Ion Exchange Liquid-Solid Extraction and Gas Chromatography with Electron Capture Detection (ECD)	DB-1701*, 30m x 0.32mm I.D., 0.25 μm DB-200, 30m x 0.32mm I.D., 0.50 μm	007-1701, 30m x 0.32mm I.D., 0.25 μm

\* Specified in EPA Method

+ The choice of column for this purge and trap method may depend on your sample concentrator to GC interface.

### EPA WASTE WATER TEST METHODS FOR ORGANIC CHEMICAL ANALYSIS, EPA 600 SERIES

METHOD NO.	METHOD TITLE	Agilent COLUMN RECOMMENDED	QUADREX COLUMN RECOMMENDATION
601+	Purgeable Halocarbons	DB <sup>TM</sup> -624, 75m x 0.53mm I.D., 3.0 μm	007-624, 75m x 0.53mm I.D., 3.0 μm
602	Purgeable Aromatics	DB-624, 30m x 0.53mm I.D., 3.0 μm	007-624, 30m x 0.53mm I.D., 3.0 μm
603	Acrolein and Acrylonitrile	DB-VRX, 30m x 0.45mm I.D., 2.55 μm	—
604	Phenols	DB-5ms, 30m x 0.53mm I.D., 1.5 μm	007-5, 30m x 0.53mm I.D., 1.0 μm
606	Phthalate Esters	DB-1, 15m x 0.53mm I.D., 1.5 μm	007-1, 15m x 0.53mm I.D., 0.5 μm
607	Nitrosamines	DB-5ms, 30m x 0.53mm I.D., 1.5 μm	007-5, 30m x 0.53mm I.D., 1.5 μm
608	Organochlorine Pesticides and PCB's	DB-608, 30m x 0.53mm I.D., 0.83 μm	007-608, 25m x 0.32mm I.D., 0.25 μm
609	Nitroaromatics and Isophorone	DB-210, 30m x 0.53mm I.D., 1.0 μm	—

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## GC 分離管柱對照表

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610	Polynuclear Aromatic Hydrocarbons	DB-5ms, 30m x 0.32mm I.D., 0.25 $\mu$ m	007-5MS, 30m x 0.32mm I.D., 0.25 $\mu$ m
611	Haloethers	DB-5ms, 15m x 0.53mm I.D., 1.5 $\mu$ m	007-1, 15m x 0.53mm I.D., 1.5 $\mu$ m
612	Chlorinated Hydrocarbons	DB-1, 30m x 0.32mm I.D., 1.0 $\mu$ m	007-1, 30m x 0.32mm I.D., 1.0 $\mu$ m
613	2,3,7,8 – Tetrachlorodibenzo-p-Dioxin 2,3,7,8 – Tetrachlorodibenzofuran	DB-Dioxin™, 60m x 0.25mm I.D., 0.15 $\mu$ m	007-DXN, 60m x 0.25mm I.D., 0.25 $\mu$ m
615	Chlorinated Herbicides	DB-608, 30m x 0.53mm I.D., 0.83 $\mu$ m DB-1, 30m x 0.32mm I.D., 0.25 $\mu$ m	007-608, 30m x 0.53mm I.D., 0.8 $\mu$ m 007-1, 30m x 0.32mm I.D., 0.25 $\mu$ m
619	Triazine Herbicides	DB-35, 30m x 0.53mm I.D., 1.0 $\mu$ m DB-17, 30m x 0.53mm I.D., 1.0 $\mu$ m	007-17, 30m x 0.53mm I.D., 1.0 $\mu$ m
624	Purgeables	DB-624, 75m x 0.53mm I.D., 3.0 $\mu$ m	007-624, 75m x 0.53mm I.D., 3.0 $\mu$ m
625	Base/Neutrals and Acids	DB-5ms, 30m x 0.32mm I.D., 0.25 $\mu$ m DB-5.625, 30m x 0.32mm I.D., 0.25 $\mu$ m	007-5MS, 30m x 0.32mm I.D., 0.25 $\mu$ m
680	Determination of Pesticides and PCB's in Water and Soil/Sediment by GC/MS	DB-5*, 30m x 0.32mm I.D., 0.25 $\mu$ m	007-5, 30m x 0.32mm I.D., 0.25 $\mu$ m
1618	Organophosphorus Pesticides, Organohalide Pesticides, Phenoxyacid Herbicides	DB-608, 30m x 0.53mm I.D., 0.83 $\mu$ m DB-1701, 30m x 0.53mm I.D., 1.0 $\mu$ m	007-1701, 30m x 0.53mm I.D., 1.0 $\mu$ m
1624	Volatile Organic Compounds by Isotope Dilution GC/MS	DB-624, 75m x 0.53mm I.D., 3.0 $\mu$ m	007-624, 75m x 0.53mm I.D., 3.0 $\mu$ m
1625	Semivolatile Organic Compounds by Isotope Dilution GC / MS	DB-5*, 30m x 0.25mm I.D., 0.25 $\mu$ m	007-5, 30m x 0.25mm I.D., 0.25 $\mu$ m
1653	Chlorinated Phenols in Waste Water by In-situ Acetylation and GC/MS	DB-5*, 30m x 0.32mm I.D., 0.25 $\mu$ m DB-5ms, 30m x 0.32mm I.D., 0.25 $\mu$ m	007-5, 30m x 0.25mm I.D., 0.25 $\mu$ m

\* Specified in EPA Method

+ The choice of column for this purge and trap method may depend on your sample concentrator to GC interface.

### EPA SOLID WASTE TEST METHODS, EPA 8000 SERIES

METHOD NO.	METHOD TITLE	Agilent COLUMN RECOMMENDED	QUADREX COLUMN RECOMMENDATION
8010+	Halogenated Volatile Organics	DB™-VRX, 75m x 0.45mm I.D., 2.55 $\mu$ m DB-624, 30m x 0.53mm I.D., 3.0 $\mu$ m	007-624, 30m x 0.53mm I.D., 3.0 $\mu$ m
8015	Nonhalogenated Volatile Organics	DB-VRX, 30m x 0.45mm I.D., 2.55 $\mu$ m DB-624, 30m x 0.53mm I.D., 3.0 $\mu$ m	007-624, 30m x 0.53mm I.D., 3.0 $\mu$ m
8020	Aromatic Volatile Organics	DB-VRX, 30m x 0.45mm I.D., 2.55 $\mu$ m DB-624, 30m x 0.53mm I.D., 3.0 $\mu$ m	007-624, 30m x 0.53mm I.D., 3.0 $\mu$ m
8030	Acrolein, Acrylonitrile, Acetonitrile	DB-VRX, 30m x 0.45mm I.D., 2.55 $\mu$ m	007-624, 30m x 0.53mm I.D., 3.0 $\mu$ m
8040	Phenols	DB-5ms, 30m x 0.53mm I.D., 1.5 $\mu$ m	007-5, 30m x 0.53mm I.D., 1.5 $\mu$ m
8060	Phthalate Esters	DB-1, 15m x 0.53mm I.D., 1.5 $\mu$ m	007-1, 15m x 0.53mm I.D., 1.5 $\mu$ m
8080	Organochlorine Pesticides and PCB's	DB-608, 30m x 0.53mm I.D., 0.83 $\mu$ m	007-608, 30m x 0.53mm I.D., 0.8 $\mu$ m
8081	Organochlorine Pesticides and PCB's as Aroclors	DB-608, 30m x 0.53mm I.D., 0.83 $\mu$ m	007-608, 30m x 0.53mm I.D., 0.8 $\mu$ m
8090	Nitroaromatics and Cyclic Ketones	DB-5ms, 30m x 0.53mm I.D., 1.5 $\mu$ m	007-5, 30m x 0.53mm I.D., 1.5 $\mu$ m
8100	Polynuclear Aromatic Hydrocarbons	DB-5ms, 30m x 0.32mm I.D., 0.25 $\mu$ m	007-5MS, 30m x 0.32mm I.D., 0.25 $\mu$ m
8120	Chlorinated Hydrocarbons	DB-5ms, 30m x 0.32mm I.D., 1.0 $\mu$ m	007-5MS, 30m x 0.32mm I.D., 0.25 $\mu$ m
8140	Organophosphorus Pesticides	DB-1701, 30m x 0.53mm I.D., 1.0 $\mu$ m DB-5, 15m x 0.53mm I.D., 1.5 $\mu$ m DB-210, 15m x 0.53mm I.D., 1.0 $\mu$ m	007-1701, 30m x 0.53mm I.D., 1.0 $\mu$ m
8141	Organophosphorus Pesticides	DB-5ms, 30m x 0.53mm I.D., 1.5 $\mu$ m	007-5, 30m x 0.53mm I.D., 1.5 $\mu$ m
8150	Chlorinate Herbicides	DB-608, 30m x 0.53mm I.D., 0.83 $\mu$ m	007-608, 30m x 0.53mm I.D., 0.8 $\mu$ m
8240+	GC/MS Method for Volatile Organics	DB-624, 75m x 0.53mm I.D., 3.0 $\mu$ m DB-VRX, 75m x 0.45mm I.D., 2.55 $\mu$ m	007-624, 75m x 0.53mm I.D., 3.0 $\mu$ m
8250	GC/MS Method for Semivolatile Organics	DB-5.625, 30m x 0.32mm I.D., 0.25 $\mu$ m	007-5, 30m x 0.32mm I.D., 0.25 $\mu$ m
8260	GC/MS Method for Volatile Organics : Capillary Column Techniques	DB-624, 75m x 0.53mm I.D., 3.0 $\mu$ m DB-VRX, 30m x 0.45mm I.D., 2.55 $\mu$ m	007-624, 75m x 0.53mm I.D., 3.0 $\mu$ m
8270	GC/MS Method for Semivolatile Organics: Capillary Column Techniques	DB-5ms, 30m x 0.25mm I.D., 0.50 $\mu$ m DB-5.625, 30m x 0.25mm I.D., 0.50 $\mu$ m	007-5, 30m x 0.25mm I.D., 0.5 $\mu$ m
8280	Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans	DB-Dioxin™, 60m x 0.25mm I.D., 15 $\mu$ m DB-Dioxin™, 60m x 0.32mm I.D., 19 $\mu$ m DB-5, 30m x 0.25mm I.D., 0.25 $\mu$ m	007-5, 30m x 0.25mm I.D., 0.25 $\mu$ m

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