Agilent CrossLab
From Insight to Outcome

EPA Groundwater Standards

Your essential resource for Agilent ULTRA chemical standards









Agilent

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About Agilent standards

Agilent is a global leader in chromatography and spectroscopy, as well as an expert in chemical standards manufacturing. Agilent offers certified reference materials, QC standards, reagents, and buffers to complement our extensive line of instruments, columns, sample preparation products, consumables, and services. Our portfolio provides laboratories with full workflow solutions for efficient, accurate results.

Agilent has an extensive list of chemical standards, matched by expertise in designing and formulating custom standards to exacting specifications. Agilent products are available through our global distribution channels, and with our logistics capabilities we offer rapid turnaround time on all orders.

With over 40 years of technical expertise in measurement science, we provide innovative, quality products to address the entire analytical chemistry workflow for laboratories around the world.

Products

- Certified reference materials (CRM)
- Reference materials (RM)
- Calibration standards
- IQ/OQ/PQ standards
- Linearity standards
- Quality check samples
- Buffers and reagents
- Wash solution and diluents

Markets

Environmental

- Petrochemicals
- PCB/PBB
- Halocarbons
- VOC/Semi-VOC
- Pesticides
- Dioxins and furans

Food and Beverages

- Allergens
- Amino and nitroaromatics
- Pharma and vet drugs
- PAHs
- Lipids
- Food authenticity
- Phenols
- Dyes

Life Science

- Pharmaceutical
- Biopharma
- Academic and research
- University
- Governmental

Industrial and Mining

Petrochemical

- Matrix oils
- Metals in biodiesel
- Organometallic

Elemental Analysis

- Single element
- Multi-element

Custom products

Do you need a custom defined reference material or other chemical solution unique to your laboratory or testing procedure? If the product you require is not available as an Agilent product, we can prepare it for you on a custom basis. Custom reference materials are a fast, economical way to meet your specific laboratory needs.

Agilent maintains an expansive compatibility database, integrating 40 years of manufacturing and quality control data to create stable and reliable custom product formulations. Choose from any of our three quality control validation levels (see Page 4).

Visit **www.agilent.com/chem/standards** to request a quote.

Quality control laboratory



Agilent operates an ISO 17025 accredited quality control laboratory and is accredited to ISO Guide 34 as a reference material producer for the manufacture of certified reference materials (CRM).

Rely on the expertise of our applications development group for:

- Method development
- Pre- and postfill analysis
- Stability testing and protocols
- Homogeneity testing

Quality control validation levels

Chemical standards manufactured by Agilent are supplied with a lot-specific certificate of analysis (C of A) that reflects the associated quality control validation level. Certificates of analysis can ship with the product and are available online. All Agilent products, unless otherwise stated, are Level II - ISO Guide 34 reference materials.

		Reported Value	Reported Uncertainty	Former Name	Solutions	Neats	Lead Time (Customs)
Level I	ISO Guide 34 RM	True (calculated)	U_{char}	Gravimetric	Y	Y	5 business days
Level II	ISO Guide 34 RM	True (analytical)	U_{char}	Full validation	Y	Y	7 to 10 business days
Level III	ISO Guide 34	Certified	U_{exp}	ISO Guide 34	Y		15 to 20 business days

Level I solution: A reference material (RM) prepared gravimetrically in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The neat materials used for the product are verified by an Agilent ISO 17025 laboratory and under the Agilent ISO Guide 34 accreditation. For each analyte, the true value, with its uncertainty value calculated at 95% confidence level, is reported.

Level I neat: RM prepared in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The true value (% purity) is reported.

Level II solution: RM prepared gravimetrically in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The neat materials used for the product are verified by an Agilent ISO 17025 laboratory and under the Agilent ISO Guide 34 accreditation. The analyte concentrations are verified by an Agilent ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at 95% confidence level, is reported.

Level II neat: RM prepared in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The materials used for this product are verified by the Agilent ISO 17025 laboratory and under the Agilent ISO Guide 34 accreditation. The true value (% purity), with its uncertainty value calculated at 95% confidence level, is reported.

Level III solution: RM prepared gravimetrically in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The neat materials used for this product are verified by the Agilent ISO 17025 laboratory and under the Agilent ISO Guide 34 accreditation. The analyte concentrations are verified by an Agilent ISO 17025 accredited laboratory. For each analyte, the certified value is reported with its uncertainty value calculated as the expanded uncertainty, in accordance with ISO Guide 35.

Triple certification

Agilent is committed to product integrity by offering customers the assurance of triple certification to ISO standards.

Agilent operates under an ISO 9001 registered quality management system, where an accrediting body (TUV) attests to the quality of our methods, procedures, testing, production, and record keeping.

Our quality control laboratory is accredited to ISO 17025 (ANAB) for technical competence to perform testing of organic and inorganic materials and certified reference materials, as defined in our scope, accessible online at **www.agilent.com/chem/17025**

Agilent is further accredited to ISO Guide 34 (ANAB) for technical competence as a reference material producer of certified reference materials. This requires Agilent to identify and document the major components of uncertainty including homogeneity, short- and long-term stability, and uncertainty due to analytical characterization and manufacturing.

The most current Agilent certifications are accessible at **www.agilent.com/quality**

Tips and tools

To view our entire portfolio of over 7,000 standards, all manufactured under ISO 17025 Guide 34, visit **www.agilent.com/chem/standards**

Level 2 reference material Certificate of Analysis

Agilent

Certificate of Analysis
ISO Guide 34

C4-C24 Even Carbon Saturated FAME Mix

Product Number: 5191-4278 **Page:** 1 of 1

Lot Number: CR-5364 **Lot Issue Date:** 17-Nov-2017 **Expiration Date:** 31-Dec-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
methyl butanoate	000623-42-7	RM04575	1005 ± 5 µg/mL
methyl hexanoate	000106-70-7	NT01630	1005 ± 5 µg/mL
methyl octanoate	000111-11-5	NT01094	1003 ± 5 µg/mL
methyl decanoate	000110-42-9	NT00187	1004 ± 5 µg/mL
methyl laurate	000111-82-0	NT01095	1003 ± 5 µg/mL
methyl tetradecanoate	000124-10-7	NT00188	1003 ± 5 µg/mL
methyl palmitate	000112-39-0	RM07128	1001 ± 5 µg/mL
methyl octadecanoate	000112-61-8	RM12285	1002 ± 5 µg/mL
methyl arachidate	001120-28-1	RM11588	1003 ± 5 µg/mL
methyl docosanoate	000929-77-1	NT01096	1004 ± 5 µg/mL
tetracosanoic acid methyl ester	002442-49-1	NT01097	1004 ± 5 µg/mL

Matrix: hexane

Storage: Store Refrigerated (2° - 8°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED
ISO Guide 34 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 **www.agilent.com/quality**

An example of a Certificate of Analysis for an Agilent reference material.

GHS compliance

Agilent is a certified GHS author for SDS and GHS compliant labeling. Chemical products manufactured and distributed by Agilent are compliant with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Safety Data Sheets (SDS) and labels are prepared in accordance with regulations and in the following languages:

European CLP Regulation
Regulation 1272/2008

- Chinese (standard Mandarin)
- Czech
- Danish
- Dutch
- English
- Estonian
- Finnish
- French
- German
- Italian
- Japanese
- Korean
- Polish
- Portuguese
- Romanian
- Russian
- Spanish
- Swedish

USA GHS-OSHA Regulation
Hazcom 2012

- English
- Spanish
- French

Chinese GHS Regulation
GB/T 17519-2013 and GB/T 16483-2008

- Chinese (standard Mandarin)
- English

Additional languages are available upon request.
As regulations are updated and expanded, Agilent will maintain up-to-date records online at **www.agilent.com**

Tips and tools

To view our entire portfolio of over 7,000 standards, all manufactured under ISO 17025 Guide 34, visit **www.agilent.com/chem/standards**

EPA Method 8010B

Volatile halocarbons

Method 8010B is used to determine volatile halogenated organic pollutants, using either purge and trap or direct injection, and an electrolytic conductivity (Hall) detector. Method 8010B has been deleted from SW-846 (effective with Update III).

Recommended Method 8010B Halogenated Volatiles Mixture [IX]

Description	Analytes			Total Vol.	Part No.
36 analytes, at 100 µg/mL, in methanol	Allyl chloride	1,3-Dichlorobenzene	Methyl iodide	1 x 1 mL	HCM-801-1
	Bromodichloromethane	1,4-Dichlorobenzene	1,1,1,2-Tetrachloroethane		
	Bromoform	1,1-Dichloroethane	1,1,2,2-Tetrachloroethane		
	Bromomethane	1,2-Dichloroethane	Tetrachloroethene		
	Carbon tetrachloride	1,1-Dichloroethene	1,1,1-Trichloroethane		
	Chlorobenzene	1,2-Dichloropropane	1,1,2-Trichloroethane		
	Chloroethane	*cis*-1,3-Dichloropropene	*trans*-1,2-Dichloroethene		
	Chloroform	*trans*-1,3-Dichloropropene	*trans*-1,4-Dichloro-2-butene		
	Chloromethane	Dibromochloromethane	Trichloroethene		
	1,2-Dibromo-3-chloropropane	Dibromomethane	Trichlorofluoromethane		
	1,2-Dibromoethane	Dichlorodifluoromethane	1,2,3-Trichloropropane		
	1,2-Dichlorobenzene	Methylene chloride	Vinyl chloride		

[IX] Contains appendix IX compounds.

Recommended Method 8010B 2-Chloroethyl Vinyl Ether Standards

Description	Standard	Total Vol.	Part No. 100 µg/mL	Part No. 5,000 µg/mL
1 standard, in methanol	2-Chloroethyl vinyl ether	1 x 1 mL	HC-070-1	EPA-1016-1

Recommended Method 8010B Chloroprene Solution

Description	Standard	Total Vol.	Part No.
1 standard, at 100 µg/mL, in methanol	Chloroprene (no xylenes)	1 x 1 mL	HC-491-1

VOC Gas Mixtures

Description	Analytes			Total Vol.	Part No. 200 µg/mL	Part No. 2,000 µg/mL
6 analytes, in methanol	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	1 x 1 mL	DWM-584-1	DWM-544-1
	Chloroethane	Chloromethane	Vinyl chloride			

Recommended Method 8010B Internal and Surrogate Standard Mix

Description	Analytes		Total Vol.	Part No.
3 analytes, at 1,500 µg/mL, in methanol	4-Bromochlorobenzene	4-Bromofluorobenzene	1 x 1 mL	STM-401-1
	Bromochloromethane			

Recommended Standards

EPA Method 8010B	Part No.
Calibration standards	HCM-801-1 HC-070-1 HC-491-1
Surrogate standard	STM-401-1

Technical note

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. Agilent therefore packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte..

EPA Method 8011

Dibromoethane and dibromochloropropane

Method 8011 is used to determine 1,2-dibromoethane and 1,2-dibromo-3-chloropropane, using microextraction, and capillary column GC with an ECD.

Recommended Method 8011 Mixtures [IX]

Description	Analytes	Total Vol.	Part No. 200 µg/mL	Part No. 2,000 µg/mL
2 analytes, in methanol	1,2-Dibromo-3-chloropropane 1,2-Dibromoethane	1 x 1 mL	DWM-504N-1	HCM-812-1

[IX] Contains appendix IX compounds.

Recommended Standards

EPA Method 8011	Part No.
Calibration standards	DWM-504N-1 HCM-812-1

EPA Method 8015C

Nonhalogenated organics

Method 8015C is used to determine volatile nonhalogenated organics, using either purge and trap or direct injection, and a flame ionization detector (FID).

Recommended Method 8015C Calibration Standard

Description	Analytes			Total Vol.	Part No.
18 analytes, at 2,000 µg/mL, in water	Acetone Acetonitrile Allyl alcohol 1-Butanol (*n*-butyl alcohol) 2-Butanone (MEK) Diethyl ether	1,4-Dioxane Ethanol Ethyl acetate Ethylene glycol Isobutyl alcohol (2-methyl-1-propanol) Isopropyl alcohol (2-propanol)	Methanol 4-Methyl-2-pentanone (MIBK) 2-Pentanone 1-Propanol (*n*-propyl alcohol) Propionitrile *tert*-Butyl alcohol (2-methyl-2-propanol)	1 x 1 mL	NVM-8015A-1

Recommended Method 8015C Calibration Standard

Description	Analytes		Total Vol.	Part No.
4 analytes, at 2,000 µg/mL, in methanol	2-Picoline *N*-Nitrosodi-*n*-butylamine	*o*-Toluidine Pyridine	1 x 1 mL	NVM-8015B-1

Recommended Method 8015C Internal Standard Mixture

Description	Analytes	Total Vol.	Part No.
3 analytes, at 2,000 µg/mL, in water	2-Chloroacrylonitrile Hexafluoro-2-propanol Hexafluoro-2-methyl-2-propanol	1 x 1 mL	STM-580-1

GRO Aromatic Calibration Mix

Description	Analytes		Total Vol.	Part No.
5 analytes, at 2,000 µg/mL, in methanol	*n*-Decane (C_{10}) *n*-Heptane (C_7) *n*-Hexane (C_6)	*n*-Nonane (C_9) *n*-Octane (C_8)	1 x 1 mL	SAK-100-1

Recommended Standards

EPA Method 8015C	Part No.
Calibration standards	NVM-8015A-1 NVM-8015B-1
Internal standard	STM-580-1

EPA Method 8021C

DRO Mixture

Description	Analytes		Total Vol.	Part No.
10 analytes, at 2,000 µg/mL, in methylene chloride	*n*-Decane (C_{10}) *n*-Docosane (C_{22}) *n*-Dodecane (C_{12}) *n*-Eicosane (C_{20}) *n*-Hexacosane (C_{26})	*n*-Hexadecane (C_{16}) *n*-Octacosane (C_{28}) *n*-Octadecane (C_{18}) *n*-Tetracosane (C_{24}) *n*-Tetradecane (C_{14})	1 x 1 mL	UST-200-1

Non-Halogenated Volatiles Mixture [IX]

Description	Analytes		Total Vol.	Part No.
12 analytes, at 100 µg/mL, in methanol	Acetonitrile Acrylamide 2-Butanone (MEK) Diethyl ether 1,4-Dioxane Ethyl alcohol	Ethyl methacrylate Isobutyl alcohol Methacrylonitrile Methyl methacrylate 4-Methyl-2-pentanone (MIBK) Propionitrile	1 x 1 mL	NVM-8015-1

[IX] Contains appendix IX compounds.

Non-Halogenated Volatiles Mixture [IX]

Description	Analytes	Total Vol.	Part No.
4 analytes, at 2,000 µg/mL, in methanol	2-Butanone (MEK) Diethyl ether Ethyl alcohol 4-Methyl-2-pentanone (MIBK)	1 x 1 mL	NVM-8115-1

[IX] Contains appendix IX compounds.

Tips and tools

Find more EPA Method standards online at **www.agilent.com/chem/standards**

EPA Method 8020A

Aromatic volatiles

Method 8020A is used to determine volatile aromatic organic compounds, using either purge and trap or direct injection, and a PID. Method 8020A has been deleted from SW-846 (effective with Update III).

Recommended Method 8020A Aromatic Volatiles Mixture [IX]

Description	Analytes			Total Vol.	Part No.
11 analytes, at 100 µg/mL, in methanol	Benzene Chlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene	1,4-Dichlorobenzene Ethylbenzene *o*-Xylene *m*-Xylene	*p*-Xylene Styrene Toluene	1 x 1 mL	AMM-802-1

[IX] Contains appendix IX compounds.

Aromatic Volatiles Mixture [IX]

Description	Analytes			Total Vol.	Part No.
10 analytes, at 2,000 µg/mL, in methanol	Benzene Chlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene	1,4-Dichlorobenzene Ethylbenzene *o*-Xylene	*m*-Xylene *p*-Xylene Toluene	1 x 1 mL	AMM-812-1

[IX] Contains appendix IX compounds.

Methyl *tert*-Butyl Ether Solution

Description	Analyte	Total Vol.	Part No.
1 analyte at 2,000 µg/mL, in methanol	Methyl *tert*-butyl ether (MTBE)	1 x 1 mL	STS-440-1

Recommended Method 8020A Internal and Surrogate Standard Mixture

Description	Analyte			Total Vol.	Part No.
5 analytes, at 1,500 µg/mL, in methanol	4-Bromochlorobenzene 4-Bromofluorobenzene	1,4-Difluorobenzene Fluorobenzene	α,α,α-Trifluorotoluene	1 x 1 mL	STM-510-1

PVOC Mixture

Description	Analyte			Total Vol.	Part No.
7 analytes, at 1,000 µg/mL, in methanol	Benzene Ethylbenzene Methyl *tert*-butyl ether (MTBE)	*o*-Xylene *m*-Xylene	*p*-Xylene Toluene	1 x 1 mL	UST-141-1

Internal and Surrogate Standards

Description	Standard	Total Vol.	Part No. 200 µg/mL	Part No. 2,000 µg/mL
1 standard, in methanol	α,α,α-Trifluorotoluene	1 x 1 mL	STS-221-1	STS-220N-1

Surrogate Standard Mixture

Description	Analyte		Total Vol.	Part No.
2 analytes, at 2,000 µg/mL, in methanol	4-Bromofluorobenzene	α,α,α-Trifluorotoluene	1 x 1 mL	STM-410-1
3 analytes, at 2,000 µg/mL, in methanol	4-Bromochlorobenzene 1,4-Difluorobenzene	Fluorobenzene		STM-420-1

Recommended Standards

EPA Method 8020A	Part No.
Calibration standard	AMM-802-1
Internal and surrogate standard	STM-510-1

EPA Method 8021B

Halogenated and aromatic volatile organics

Method 8021B is used to determine aromatic and halogenated volatiles, using either purge and trap, headspace, vacuum distillation, or direct injection. Detection is carried out with a PID and ELCD in series.

Recommended Method 8021B VOC Mixtures

Description	Analytes			Total Vol.	Part No. 200 µg/mL	Part No. 2,000 µg/mL
60 analytes, in methanol	Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene *cis*-1,2-Dichloroethene	*trans*-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane 1,1-Dichloropropene *cis*-1,3-Dichloropropene *trans*-1,3-Dichloropropene 1,2-Dibromo-3-chloropropane Dibromochloromethane Dibromomethane 1,2-Dibromoethane Dichlorodifluoromethane Ethylbenzene Hexachlorobutadiene Isopropylbenzene 4-Isopropyltoluene Methylene chloride *n*-Butylbenzene *n*-Propylbenzene Naphthalene	*o*-Xylene *m*-Xylene *p*-Xylene *sec*-Butylbenzene Styrene *tert*-Butylbenzene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene 1,2,3-Trichloropropane Trichlorofluoromethane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl chloride	1 x 1 mL	DWM-580-1	DWM-588-1

Recommended Method 8021B Halogenated Volatiles Mixture

Description	Analytes			Total Vol.	Part No.
6 analytes, at 2,000 µg/mL, in methanol	1,3-Dichloro-2-propanol 2-Chloroethanol	Allyl chloride Benzyl chloride	Bis(2-chloroisopropyl) ether Chloromethyl methyl ether	1 x 1 mL	HCM-822A-1

Recommended Method 8021B Additional Analyte Standards

Analyte	Total Vol.	Part No. 100 µg/mL	Part No. 5,000 µg/mL
2-Chloroethyl vinyl ether, in methanol	1 x 1 mL	HC-070-1	EPA-1016-1

EPA Method 8021B Kit

Description	Standards		Part No.
Contains 6 ampoules, 1 x 1 mL of each standard	VOC mixture (DWM-588-1)	Chloroprene solution (HC-491-1)	AMK-8021
	Halogenated Volatiles mix (HCM-822-1)	Surrogate standard mix (STM-431-1)	
	Chloroethyl vinyl ether soln. (HC-070-1)	Internal standard mix (STM-240N-1)	

Recommended Standards

EPA Method 8021B	Part No.
Calibration standards	DWM-588-1 HCM-822A-1 HC-070-1 HC-491-1
Surrogate standard	STM-431-1
Internal standard	STM-240N-1

Recommended Method 8021B Surrogate Standard Mixture

Description	Analytes		Total Vol.	Part No.
2 analytes, at 1,500 µg/mL, in methanol	4-Bromochlorobenzene	1,4-Dichlorobutane	1 x 1 mL	STM-431-1

Recommended Method 8021B Internal Standard Mixture

Description	Analytes		Total Vol.	Part No.
2 analytes, at 2,000 µg/mL, in methanol	2-Bromo-1-chloropropane	Fluorobenzene	1 x 1 mL	STM-240N-1

VOC Mixture with MTBE

Description	Analytes				Total Vol.	Part No.
55 analytes, at 2,000 µg/mL, in methanol	Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform *n*-Butylbenzene *sec*-Butylbenzene *tert*-Butylbenzene *tert*-Butyl methyl ether Carbon tetrachloride Chlorobenzene Chloroform 2-Chlorotoluene 4-Chlorotoluene	Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane Dibromomethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene *cis*-1,2-Dichloroethene *trans*-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane	2,2-Dichloropropane 1,1-Dichloropropene *cis*-1,3-Dichloropropene *trans*-1,3-Dichloropropene Ethylbenzene Hexachlorobutadiene Isopropylbenzene 4-Isopropyltoluene Methylene chloride Naphthalene *n*-Propylbenzene Styrene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane	Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene 1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene *o*-Xylene *m*-Xylene *p*-Xylene	1 x 1 mL	DWM-596-1

VOC Mixtures (No Gases)

Description	Analytes				Total Vol.	Part No. 200 µg/mL	Part No. 2,000 µg/mL
54 analytes, in methanol	Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform *n*-Butylbenzene *sec*-Butylbenzene *tert*-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroform 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane	1,2-Dibromo-3-chloropropane 1,2-Dibromoethane Dibromomethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene *cis*-1,2-Dichloroethene *trans*-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane	1,1-Dichloropropene *cis*-1,3-Dichloropropene *trans*-1,3-Dichloropropene Ethylbenzene Hexachlorobutadiene Isopropylbenzene 4-Isopropyltoluene Methylene chloride Naphthalene *n*-Propylbenzene Styrene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane	Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene 1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene *o*-Xylene *m*-Xylene *p*-Xylene	1 x 1 mL	DWM-583-1	DWM-589N-1

VOC Gas Mixtures

Description	Analytes			Total Vol.	Part No. 200 µg/mL	Part No. 2,000 µg/mL
6 analytes, in methanol	Bromomethane Chloroethane	Chloromethane Dichlorodifluoromethane	Trichlorofluoromethane Vinyl chloride	1 x 1 mL	DWM-584-1	DWM-544-1

Technical note

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. Agilent therefore packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte.

EPA Method 8030A

Acrolein and acrylonitrile

Method 8030A is a purge and trap method for determining acrolein and acrylonitrile, using a flame ionization detector (FID). Method 8030A has been deleted from SW-846 (effective with Update III).

Recommended Method 8030A Acrolein-Acrylonitrile Mixtures [IX]

Description	Analytes	Total Vol.	Part No. 100 µg/mL	Part No. 2,000 µg/mL
2 analytes, in methanol*	Acrolein Acrylonitrile	1 x 1 mL	AMN-603-1	AMN-623-1

[IX] Contains appendix IX compounds.

Acrolein-Acrylonitrile Mixtures in Water [IX]

Description	Analytes	Total Vol.	Part No. 1,000 µg/mL	Part No. 10,000 µg/mL
2 analytes, in water*	Acrolein Acrylonitrile	1 x 1 mL	AMN-613-1	AMN-803-1

[IX] Contains appendix IX compounds.

* See Technical note.

EPA Method 8031, 8032A, 8033

Recommended Method Standards

EPA Method	Compound	Concentration	Volume	Part No.
8031	Acrylonitrile	1,000 µg/mL, in methanol	1 x 1 mL	AMN-813-1
8032A	Acrylamide	1,000 µg/mL, in methanol	1 x 1 mL	AMN-823-1
	Dimethyl phthalate	100 µg/mL, in methanol	1 x 1 mL	PS-140-1
8033	Acetonitrile	100 µg/mL, in methanol	1 x 1 mL	NV-110-1

Technical note: Acrolein standards

Acrolein is known to undergo polymerization with time. Agilent prepares the standards which contain acrolein every month to ensure the accuracy of each standard's certified values. These standards are assigned expiration dates of three months. Agilent strongly recommends that these standards be used as soon as possible after receipt.

EPA Method 8041A

Phenols

Method 8041A is used to measure phenols. Samples are extracted, then concentrated in a Kuderna-Danish apparatus. Quantitation is by GC/FID, or the extract is derivatized and determined by GC with an ECD.

Recommended Method 8041A Phenols Mixture [IX]

Description	Analytes		Total Vol.	Part No.
9 analytes, at 2,000 µg/mL, in isopropanol	4-Chloro-3-methylphenol *o*-Cresol 2,4-Dichlorophenol 4,6-Dinitro-2-methylphenol 2-Nitrophenol	4-Nitrophenol Pentachlorophenol Phenol 2,4,6-Trichlorophenol	1 x 1 mL	PHM-814-1

[IX] Contains appendix IX compounds.

Recommended Method 8041A Phenols Mixture [IX]

Description	Analytes		Total Vol.	Part No.
9 analytes, at 2,000 µg/mL, in isopropanol	2-Chlorophenol *m*-Cresol *p*-Cresol 2,6-Dichlorophenol 2,4-Dimethylphenol	2,4-Dinitrophenol Dinoseb 2,3,4,6-Tetrachlorophenol 2,4,5-Trichlorophenol	1 x 1 mL	PHM-824-1

[IX] Contains appendix IX compounds.

Method 8041A Phenols Mixture

Description	Analytes		Total Vol.	Part No
3 analytes, at 2,000 µg/mL, in isopropanol	2-Cyclohexyl-4,6-dinitrophenol 2,3,4,5-Tetrachlorophenol	2,3,5,6-Tetrachlorophenol	1 x 1 mL	PHM-844-1

Recommended Method 8041A Internal Standard Mixture

Description	Analytes		Total Vol.	Part No.
2 analytes, at 1,000 µg/mL, in isopropanol	2,5-Dibromotoluene	2,2,5,5-Tetrabromobiphenyl	1 x 1 mL	ISM-610-1

Recommended Method 8041A Surrogate Standard

Description	Analyte	Total Vol.	Part No.
1 analyte, at 1,000 µg/mL, in isopropanol	2,4-Dibromophenol	1 x 1 mL	IST-620-1

Surrogate Standard Mixture

Description	Analytes		Total Vol.	Part No.
2 analytes, at 2,000 µg/mL, in isopropanol	2-Fluorophenol	2,4,6-Tribromophenol	1 x 1 mL	ISM-380-1

Recommended Standards

EPA Method 8041A	Part No.
Calibration standards	PHM-814-1 PHM-824-1
Surrogate standard	IST-620-1
Internal standard	ISM-610-1

Technical note

Phenols are subject to absorption on the active sites of GC columns. The more acidic phenols, such as 2,4-dinitrophenol, will chromatograph poorly leading to poor quantitation.

EPA Method 8061A

Phthalate esters

Method 8061 is used to measure phthalates. Samples are extracted, then quantitated with capillary GC/ECD.

Recommended Method 8061A Phthalates Mixtures [IX]

Description	Analytes			Total Vol.	Part No. 100 µg/mL in Methanol	Part No. 1,000 µg/mL in Isooctane
6 analytes	Bis(2-ethylhexyl) phthalate Butyl benzyl phthalate	Di-*n*-butyl phthalate Diethyl phthalate	Dimethyl phthalate Di-*n*-octyl phthalate	1 x 1 mL	PSM-606-1	PSM-806-1

[IX] Contains appendix IX compounds.

Phthalates Mixture

Description	Analytes			Total Vol.	Part No.
16 analytes, at 1,000 µg/mL, in isooctane	Bis(2-*n*-butoxyethyl) phthalate Bis(2-ethoxyethyl) phthalate Bis(2-ethylhexyl) phthalate Bis(2-methoxyethyl) phthalate Bis(4-methyl-2-pentyl) phthalate Butyl benzyl phthalate	Dicyclohexyl phthalate 2-Ethylhexyl hexyl phthalate Diamyl phthalate Diethyl phthalate Dihexyl phthalate	Diisobutyl phthalate Dimethyl phthalate Dinonyl phthalate Di-*n*-octyl phthalate Di-*n*-butyl phthalate	1 x 1 mL	PSM-826-1

Recommended Method 8061A Surrogate Standard Mixture

Description	Analytes			Total Vol.	Part No.
3 analytes, 500 µg/mL in acetone	Dibenzyl phthalate	Diphenyl isophthalate	Diphenyl phthalate	1 x 1 mL	ISM-390-1

Phthalate Esters QC Reference Mix (PHE)

Description	Analytes and Concentration				Total Vol.	Part No.
6 analytes, in acetone	Bis(2-ethylhexyl) phthalate Butyl benzyl phthalate Dimethyl phthalate	50 µg/mL 10 µg/mL 25 µg/mL	Di-*n*-butyl phthalate Diethyl phthalate Di-n-octyl phthalate	25 µg/mL 25 µg/mL 50 µg/mL	1 x 1 mL	EPA-2037N-1

Recommended Method 8061A Internal Standard

Description	Analyte	Total Vol.	Part No.
1 analyte, at 5,000 µg/mL, in hexane	Benzyl benzoate	1 x 1 mL	IST-400-1

EPA Method 8061A Kit

Description	Standards	Part No.
Contains 3 ampoules, 1 x 1 mL of each standard	Phthalates mixture (PSM-806-1)	PSK-8061
	Surrogate standard mix (ISM-390-1)	
	Internal standard (IST-400-1)	

Recommended Standards

EPA Method 8061A	Part No.
Calibration standard	PSM-806-1
Surrogate standard	ISM-390-1
Internal standard	IST-400-1

EPA Method 8070A

Nitrosamines

Method 8070A is used to measure nitrosamines. Samples are quantitated by GC/NPD.

Recommended Method 8070A Nitrosamines Mixtures [IX]

Description	Analytes	Total Vol.	Part No.
3 analytes, at 2,000 µg/mL, in methanol	*N*-Nitrosodimethylamine *N*-Nitrosodiphenylamine *N*-Nitrosodi-*n*-propylamine	1 x 1 mL	NSM-807-1

[IX] Contains appendix IX compounds.

Recommended Standards

EPA Method 8070A	Part No.
Calibration standards	NSM-807-1 IST-400-1

EPA Method 8080A

Organochlorine pesticides and PCBs

Method 8080A is used to measure organochlorine pesticides and PCBs, using extraction followed by GC/ECD. Method 8080A has been deleted from SW-846 (effective with Update III).

Recommended Method 8080A Organochlorine Pesticides Mix

Description	Analytes		Total Vol.	Part No.
17 analytes, at 250 µg/mL, in hexane/toluene (1:1)	Aldrin α-BHC β-BHC δ-BHC γ-BHC (lindane) 4,4´-DDD 4,4´-DDE 4,4´-DDT Dieldrin	Endosulfan I Endosulfan II Endosulfan sulfate Endrin Endrin aldehyde Heptachlor Heptachlor epoxide (B) Methoxychlor (at 1,000 µg/mL)	1 x 1 mL	PPM-808B-1

Recommended Method 8080A Organochlorine Pesticides Mix

Description	Analytes		Total Vol.	Part No.
17 analytes, at 2,000 µg/mL, in acetone	Aldrin α-BHC β-BHC δ-BHC γ-BHC (lindane) 4,4´-DDD 4,4´-DDE 4,4´-DDT Dieldrin	Endosulfan I Endosulfan II Endosulfan sulfate Endrin Endrin aldehyde Heptachlor Heptachlor epoxide (B) Methoxychlor	1 x 1 mL	US-112B

Recommended Standards

EPA Method 8080A	Part No.
Calibration standards	PPM-808B-1 US-112B-1
Surrogate standard	ISM-320-1

Technical note

Chlordane, toxaphene, and the aroclors are examples of technical mixtures composed of many compounds. Due to variations in the manufacturing process, the exact composition of these mixtures varies from lot to lot.

It has been shown that endrin and DDT decompose on splitless injectors. On-column injection may be warranted.

EPA Method 8081B

Organochlorine pesticides

Method 8081B is used to measure organochlorine pesticides, using extraction followed by capillary GC/ECD.

Recommended Method 8081B Organochlorine Pesticides Mixture

Description	Analytes		Total Vol.	Part No.
20 analytes, at 1,000 µg/mL, in hexane/toluene (1:1)	Aldrin α-BHC β-BHC δ-BHC γ-BHC (lindane) α-Chlordane γ-Chlordane 4,4′-DDD 4,4′-DDE 4,4′-DDT	Dieldrin Endosulfan I Endosulfan II Endosulfan sulfate Endrin Endrin aldehyde Endrin ketone Heptachlor Heptachlor epoxide (isomer B) Methoxychlor	1 x 1 mL	PPM-808C-1

Recommended Method 8081B Organochlorine Pesticides Mixture

Description	Analytes		Total Vol.	Part No.
6 analytes, at 1,000 µg/mL, in hexane/toluene (1:1)	Chlorobenzilate Diallate 1,2-Dibromo-3-chloropropane	Hexachlorobenzene Hexachlorocyclopentadiene Isodrin	1 x 1 mL	PPM-808F-1

Recommended Method 8081B Pesticides Surrogate Standard Spiking Solution

Description	Analytes		Total Vol.	Part No.
2 analytes, at 200 µg/mL, in acetone	Decachlorobiphenyl	2,4,5,6-Tetrachloro-*m*-xylene	1 x 1 mL	ISM-320-1

Recommended Method 8081B Internal Standards

Description	Standards	Total Vol.	Part No.
2 standards, at 5,000 µg/mL, in acetone	1-Bromo-2-nitrobenzene	1 x 1 mL	PPS-351-1
	Pentachloronitrobenzene	1 x 1 mL	PPS-133-1

EPA Method 8081B Kit

Description	Standards	Part No.
Contains 4 ampoules, 1 x 1 mL of each standard	Pesticides mixture (PPM-808C-1)	PPK-8081
	Pesticides mixture (PPM-808F-1)	
	Surrogate standard mix (ISM-320-1)	
	Internal standard (PPS-351-1)	

Recommended Standards

EPA Method 8081B	Part No.
Calibration standards	PPM-808C-1 PPM-808F-1
Surrogate standard	ISM-320-1
Internal standards	PPS-351-1 PPS-133-1

Technical note

Chlordane, toxaphene, strobane, and the halowaxes are examples of technical mixtures composed of many compounds. Due to variations in the manufacturing process, the exact composition of these mixtures varies from lot to lot.

It has been shown that endrin and DDT decompose on splitless injectors. On-column injection may be warranted.

EPA Method 8082A

Polychlorinated biphenyls (PCBs)

Method 8082A is used to determine the concentrations of polychlorinated biphenyls (PCBs) as aroclors, or as individual PCB congeners in extracts from solid and aqueous matrices. Open tubular capillary columns are employed with electron capture detectors (ECD) or electrolytic conductivity detectors (ELCD).

Method 8082A PCB Congeners Mixture

Description	Analytes		Total Vol.	Part No.
19 analytes, at 100 µg/mL, in isooctane	2-Chlorobiphenyl (BZ # 1) 2,3-Dichlorobiphenyl (BZ # 5) 2,2',5-Trichlorobiphenyl (BZ # 18) 2,4',5-Trichlorobiphenyl (BZ # 31) 2,2',3,5'-Tetrachlorobiphenyl (BZ # 44) 2,2',5,5'-Tetrachlorobiphenyl (BZ # 52) 2,3',4,4'-Tetrachlorobiphenyl (BZ # 66) 2,2',3,4,5'-Pentachlorobiphenyl (BZ # 87) 2,2',4,5,5'-Pentachlorobiphenyl (BZ # 101) 2,3,3',4',6-Pentachlorobiphenyl (BZ # 110)	2,2',3,4,4',5'-Hexachlorobiphenyl (BZ # 138) 2,2',3,4,5,5'-Hexachlorobiphenyl (BZ # 141) 2,2',3,5,5',6-Hexachlorobiphenyl (BZ # 151) 2,2',4,4',5,5'-Hexachlorobiphenyl (BZ # 153) 2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ # 170) 2,2',3,4,4',5,5'-Heptachlorobiphenyl (BZ # 180) 2,2',3,4,4',5',6-Heptachlorobiphenyl (BZ # 183) 2,2',3,4',5,5',6-Heptachlorobiphenyl (BZ # 187) 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (BZ # 206)	1 x 1 mL	RPCM-8082-1

Recommended Method 8082A Calibration Stock Solution

Description	Analytes		Total Vol.	Part No.
2 analytes, at 1,000 µg/mL, in isooctane	Aroclor 1016	Aroclor 1260	1 x 1 mL	PPM-8082-1

Internal and Surrogate Standards

Standards	Concentration	Total Vol.	Part No.
Decachlorobiphenyl	1,000 µg/mL, in toluene	1 x 1 mL	PPS-150-1
2,4,5,6-Tetrachloro-*m*-xylene	2,000 µg/mL, in acetone	1 x 1 mL	IST-440-1

Recommended Method 8082A PCB Standards

Standards	Concentration	Total Vol.	Part No.
Aroclor 1016	100 µg/mL, in isooctane	1 x 1 mL	PP-282-1
Aroclor 1221			PP-292-1
Aroclor 1232			PP-302-1
Aroclor 1242			PP-312-1
Aroclor 1248			PP-342-1
Aroclor 1254			PP-352-1
Aroclor 1260			PP-362-1
Aroclor 1262			PP-372-1
Aroclor 1268			PP-382-1

Recommended Standard

EPA Method 8082A	Part No.
Calibration standard	PPM-8082-1

Technical note

This method may be used to determine PCBs as either aroclors or as individual congeners. Only 19 congeners have been tested, but the method may be appropriate for additional congeners. Decachlorobiphenyl is used as an internal standard only when individual congeners are being tested. No internal standard is used for aroclor determinations.

Decachlorobiphenyl is used as a surrogate standard for aroclor determinations. Tetrachloro-*m*-xylene is used as a surrogate for individual congeners. Aroclors are examples of technical mixtures composed of many compounds. Due to variations in the manufacturing process, the exact composition of these mixtures varies from lot to lot.

EPA Method 8091

Nitroaromatics and cyclic ketones

Method 8091 is used to measure nitroaromatics and cyclic ketones. Samples are extracted, then quantitated with GC/NPD and GC/ECD.

Recommended Method 8091 Composite Stock Solution [IX]

Description	Analytes	Total Vol.	Part No.
6 analytes, at 40 µg/mL, in isooctane	1,4-Dinitrobenzene 2,4-Dinitrotoluene 2,6-Dinitrotoluene 1,4-Naphthoquinone Nitrobenzene Pentachloronitrobenzene	1 x 1 mL	NAIM-809B-1

[IX] Contains appendix IX compounds.

Recommended Method 8091 Surrogate Standard

Description	Standard	Total Vol.	Part No.
1 standard, at 1,000 µg/mL, in acetone	1-Chloro-3-nitrobenzene	1 x 1 mL	IST-630-1

Recommended Method 8091 Internal Standard

Description	Standard	Total Vol.	Part No.
1 standard, at 1,000 µg/mL, in acetone	Hexachlorobenzene	1 x 1 mL	EPA-1125

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EPA Method 8095

Explosives

Method 8095 is used to measure explosives, using extraction followed by capillary GC/ECD.

Recommended Method 8095 Calibration Standard A

Description	Analytes		Total Vol.	Part No.
10 analytes, at 1 µg/mL, in acetonitrile	1,3-Dinitrobenzene 2,6-Dinitrotoluene 2,4-Dinitrotoluene 4-Amino-2,6-dinitrotoluene 2-Amino-4,6-dinitrotoluene	HMX RDX Tetryl 1,3,5-Trinitrobenzene 2,4,6-Trinitrotoluene	1 x 1 mL	NAIM-8095A-1

Recommended Method 8095 Calibration Standard B

Description	Analytes and Concentration				Total Vol.	Part No.
6 analytes, in acetonitrile	Nitrobenzene Nitroglycerine 3-Nitrotoluene	5 µg/mL 5 µg/mL 5 µg/mL	2-Nitrotoluene 4-Nitrotoluene PETN	5 µg/mL 5 µg/mL 5 µg/mL	1 x 1 mL	NAIM-8095B-1

Recommended Method 8095 Surrogate Standards

Description	Standards	Total Vol.	Part No.
2 standards, at 250 µg/mL, in acetonitrile	3,4-Dinitrotoluene	1 x 1 mL	IST-701-1
	2-Methyl-4-nitroaniline	1 x 1 mL	IST-702-1

Recommended Standards

EPA Method 8095	Part No.
Calibration standards	NAIM-8095A-1 NAIM-8095B-1
Surrogate standards	IST-701-1 IST-702-1

EPA Method 8100

Polynuclear aromatic hydrocarbons

Method 8100 is used to measure polynuclear aromatic hydrocarbons, using extraction followed by GC/FID. Either packed or capillary columns may be used.

Recommended Method 8100 PAH Mixture [IX]

Description	Analytes and Concentration				Total Vol.	Part No.
16 analytes, in methylene chloride	Acenaphthene	1,000 µg/mL	Chrysene	100 µg/mL	1 x 1 mL	PM-810-1
	Acenaphthylene	1,000 µg/mL	Dibenz[*a,h*]anthracene	100 µg/mL		
	Anthracene	1,000 µg/mL	Fluoranthene	100 µg/mL		
	Benz[*a*]anthracene	100 µg/mL	Fluorene	1,000 µg/mL		
	Benzo[*b*]fluoranthene	100 µg/mL	Indeno[1,2,3-*cd*]pyrene	100 µg/mL		
	Benzo[*k*]fluoranthene	50 µg/mL	Naphthalene	1,000 µg/mL		
	Benzo[*ghi*]perylene	100 µg/mL	Phenanthrene	1,000 µg/mL		
	Benzo[*a*]pyrene	100 µg/mL	Pyrene	100 µg/mL		

[IX] Contains appendix IX compounds.

PAH QC Reference Mixture [IX]

Description	Analytes and Concentration				Total Vol.	Part No.
16 analytes, in acetonitrile	Acenaphthene	100 µg/mL	Chrysene	10 µg/mL	1 x 1 mL	PM-613A-1
	Acenaphthylene	100 µg/mL	Dibenz[*a,h*]anthracene	10 µg/mL		
	Anthracene	100 µg/mL	Fluoranthene	10 µg/mL		
	Benz[*a*]anthracene	10 µg/mL	Fluorene	100 µg/mL		
	Benzo[*b*]fluoranthene	10 µg/mL	Indeno[1,2,3-*cd*]pyrene	10 µg/mL		
	Benzo[*k*]fluoranthene	5 µg/mL	Naphthalene	100 µg/mL		
	Benzo[*ghi*]perylene	10 µg/mL	Phenanthrene	100 µg/mL		
	Benzo[*a*]pyrene	10 µg/mL	Pyrene	10 µg/mL		

[IX] Contains appendix IX compounds.

PAH Mixture

Description	Analytes		Total Vol.	Part No.
8 analytes, at 1,000 µg/mL, in methylene chloride	Dibenz[*a,h*]acridine	3-Methylcholanthrene	1 x 1 mL	PM-811-1
	Dibenz[*a,j*]acridine	Dibenzo[*a,e*]pyrene		
	7H-Dibenzo[*c,g*]carbazole	Dibenzo[*a,h*]pyrene		
	Benzo[*j*]fluoranthene	Dibenzo[*a,i*]pyrene		

Recommended Method 8100 Surrogate Standards

Standards	Concentration	Total Vol.	Part No.
1-Fluoronaphthalene	1,000 µg/mL, in methylene chloride	1 x 1 mL	IST-180-1
2-Fluorobiphenyl	2,000 µg/mL, in methylene chloride	1 x 1 mL	ATS-140-1

Recommended Standards

EPA Method 8100	Part No.
Calibration standard	PM-810-1
Surrogate standards	IST-180-1 ATS-140-1

EPA Method 8121

Chlorinated hydrocarbons

Method 8121 are used to measure chlorinated hydrocarbons, using extraction followed by capillary column GC/ECD.

Recommended Method 8121 Chlorinated Hydrocarbons Mixture

Description	Analytes and Concentration				Total Vol.	Part No.
22 analytes, in hexane	Benzal chloride	100 µg/mL	Hexachlorobenzene	10 µg/mL	1 x 1 mL	CHM-842A-1
	Benzotrichloride	100 µg/mL	Hexachlorobutadiene	10 µg/mL		
	Benzyl chloride	100 µg/mL	Hexachlorocyclopentadiene	10 µg/mL		
	α-BHC	100 µg/mL	Hexachloroethane	10 µg/mL		
	β-BHC	100 µg/mL	Pentachlorobenzene	10 µg/mL		
	δ-BHC	100 µg/mL	1,2,3,4-Tetrachlorobenzene	100 µg/mL		
	ϒ-BHC (lindane)	100 µg/mL	1,2,3,5-Tetrachlorobenzene	100 µg/mL		
	2-Chloronaphthalene	2,000 µg/mL	1,2,4,5-Tetrachlorobenzene	100 µg/mL		
	1,2-Dichlorobenzene	1,000 µg/mL	1,2,3-Trichlorobenzene	100 µg/mL		
	1,3-Dichlorobenzene	1,000 µg/mL	1,2,4-Trichlorobenzene	100 µg/mL		
	1,4-Dichlorobenzene	1,000 µg/mL	1,3,5-Trichlorobenzene	100 µg/mL		

Recommended Method 8121 Surrogate Standard Mixture

Description	Analytes and Concentration		Total Vol.	Part No.
3 analytes, in acetone	1,4-Dichloronaphthalene	10 µg/mL	1 x 1 mL	ISM-411-1
	2,3,4,5,6-Pentachlorotoluene	1 µg/mL		
	α,2,6-Trichlorotoluene	1 µg/mL		

Recommended Method 8121 Internal Standard

Description	Analyte	Total Vol.	Part No.
1 analyte, at 50 µg/mL, in acetone	1,3,5-Tribromobenzene	1 x 1 mL	IST-420-1

Recommended Standards

EPA Method 8121	Part No.
Calibration standard	CHM-842A-1
Internal standard	IST-420-1
Surrogate standard	ISM-411-1

Tips and tools

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EPA Method 8141B

Organophosphorus pesticides

Method 8141B is used to measure organophosphorus pesticides, using extraction. Quantitation is carried out on GC, using either a NPD, a FPD, or an ELCD.

Recommended Method 8141B Organophosphorus Pesticides Mixture

Description	Analytes			Total Vol.	Part No.
20 analytes, at 200 µg/mL, in hexane/acetone	Azinphos methyl Bolstar Chlorpyrifos Coumaphos Demeton (total) Diazinon Dichlorvos	Disulfoton Ethoprop Fensulfothion Fenthion Merphos Methyl parathion Mevinphos	Naled Phorate Ronnel Stirofos Tokuthion Trichloronate	1 x 1 mL	SPM-824-1

Recommended Method 8141B Organophosphorus Pesticides Mixture

Description	Analytes			Total Vol.	Part No.
7 analytes, at 200 µg/mL, in hexane/acetone (1:1)	Dimethoate EPN Malathion	Monocrotophos Parathion	Sulfotepp TEPP	1 x 1 mL	SPM-834-1

Recommended Method 8141B Organophosphorus Pesticides Mixture

Description	Analytes			Total Vol.	Part No.
10 analytes, at 200 µg/mL, in hexane/acetone	Azinphos ethyl Carbophenothion Chlorfenvinphos Dioxathion	Ethion Famphur Leptophos	Phosmet Phosphamidon Terbuphos	1 x 1 mL	SPM-844A-1

Recommended Method 8141B Organophosphorus Pesticides Mixture

Description	Analytes			Total Vol.	Part No.
9 analtyes, at 200 µg/mL, in hexane/acetone	Aspon Chlorpyrifos methyl Crotoxyphos	Dichlofenthion Dicrotophos Fenitrothion	Fonofos Thionazin Trichlorfon	1 x 1 mL	SPM-854-1

Recommended Standards

EPA Method 8141B	Part No.
Calibration standards	SPM-824-1 SPM-834-1 SPM-844A-1 SPM-854-1 SPM-864-1 SPM-874-1 SPM-884-1
Internal standard	PPS-350-1
Surrogate standards	ISM-570-1 PPS-360-1

EPA Method 8141B Kit

Description	Standards				Part No.
Contains 9 ampoules, 1 x 1 mL of each standard	Pesticides mixture Pesticides mixture Pesticides mixture Pesticides mixture Industrial chemicals mix	(SPM-824-1) (SPM-834-1) (SPM-844A-1) (SPM-854-1) (SPM-864-1)	Triazine herbicides mix Carbamates mixture Surrogate standard mix Internal standard	(SPM-874-1) (SPM-884-1) (ISM-570-1) (PPS-350-1)	SPK-8141B

Technical note: Organophosphorus pesticide standards

Some of the organophosphorus pesticides in the Agilent product number SPM-824 are unstable in solution. Agilent prepares this standard every month to ensure the accuracy of each standard's certified values. These standards are assigned expiration dates of three months. Agilent strongly recommends that these standards be used as soon as possible after receipt.

EPA Method 8150B, 8151A

Chlorinated herbicides

Methods 8150B and 8151 are used to measure chlorinated herbicides, using extraction followed by derivatization. Quantitation is carried out on GC/ECD. Method 8150B has been deleted from SW-846 (effective with Update III).

Recommended Method 8150B Chlorinated Herbicides Mixtures

Description	Analytes and Concentration		Total Vol.	Mixture	Part No.
10 analytes, in methanol	2,4-D	100 µg/mL	1 x 1 mL	Herbicide acids	HBM-8150A-1
	Dalapon	250 µg/mL		Methylated herbicide	HBM-8150M-1
	2,4-DB	100 µg/mL			
	Dicamba	10 µg/mL			
	Dichlorprop	100 µg/mL			
	Dinoseb	50 µg/mL			
	MCPA	10,000 µg/mL			
	MCPP	10,000 µg/mL			
	Silvex (2,4,5-TP)	10 µg/mL			
	2,4,5-T	10 µg/mL			

Recommended Method 8151A Chlorinated Herbicides Mixtures

Description	Analytes		Total Vol.	Mixture	Part No.
18 analytes, at 100 µg/mL, in methanol	Acifluorfen	Dichlorprop	1 x 1 mL	Herbicide acids	HBM-8151A-1
	Bentazon	Dinoseb		Methylated herbicide	HBM-8151M-1
	Chloramben	MCPA (at 10,000 µg/mL)			
	2,4-D	MCPP (at 10,000 µg/mL)			
	Dalapon	4-Nitrophenol			
	2,4-DB	Pentachlorophenol			
	DCPA	Picloram			
	Dicamba	Silvex (2,4,5-TP)			
	3,5-Dichlorobenzoic acid	2,4,5-T			

Chlorophenoxy Herbicides Mixture (HER)

Description	Analytes	Total Vol.	Part No.
2 analytes, at 5 µg/mL, in acetonitrile	2,4-D Silvex (2,4,5-TP)	1 x 1 mL	EPA-2015N-1

Recommended Standards

Method 8150B	Part No.
Calibration standard	HBM-8150A-1
Internal standards	PPS-171-1 PPS-173-1
Surrogate standards	PPS-165-1 PPS-164X-1
Method 8151A	**Part No.**
Calibration standard	HBM-8151A-1
Internal standard	PPS-171-1
Surrogate standard	PPS-165-1

Chlorinated Herbicides Mixtures [IX]

Description	Analytes	Total Vol.	Mixture	Part No.
3 analytes, at 100 µg/mL, in methanol	2,4-D Silvex (2,4,5-TP) 2,4,5-T	1 x 1 mL	Herbicide acids	HBM-815A-1
			Methylated herbicide	HBM-815M-1

[IX] Contains appendix IX compounds.

Methylated Herbicides Mixture

Description	Analytes		Total Vol.	Part No.
8 analytes, at 20 µg/mL, in hexane	2,4-D Methyl ester Dalapon methyl ester 2,4-DB Methyl ester Dicamba methyl ester	Dichlorprop methyl ester Dinoseb methyl ether Silvex methyl ester (2,4,5-TP) 2,4,5-T Methyl ester	1 x 1 mL	HBM-8152M-1

Chlorinated Herbicides Mixture [IX]

Description	Analytes		Total Vol.	Part No.
10 analytes, at 200 µg/mL, in methanol	2,4-D Dalapon 2,4-DB Dicamba Dichlorprop	Dinoseb MCPA MCPP Silvex (2,4,5-TP) 2,4,5-T	1 x 1 mL	HBM-8153A-1

[IX] Contains appendix IX compounds.

Shooters – Open and shoot spiking standards

No dilution required

Shooters are ready-to-shoot spiking solutions at working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampoules, follow the EPA protocols for storage and stability checking of working standards. See the EPA method you are using for the specific protocol.

Internal and Surrogate Standard Solutions

Standard	Concentration	Total Vol.	Part No.
4,4´-Dibromooctafluorobiphenyl	250 µg/mL, in acetone	1 x 1 mL	PPS-171-1
2,4-Dichlorophenylacetic acid (DCAA)	100 µg/mL, in acetone	1 x 1 mL	PPS-165-1
DCAA methyl ester	100 µg/mL, in acetone	1 x 1 mL	PPS-166-1

Recommended Method 8150B Herbicides Surrogate Standard Spiking Solution

Description	Standard	Total Vol.	Part No.
1 standard, at 2 µg/mL, in methanol	2,4-Dichlorophenylacetic acid (DCAA)	1 x 25 mL	PPS-164X

Recommended Method 8150B Herbicides Internal Standard Spiking Solution

Description	Standard	Total Vol.	Part No.
1 standard, at 1 µg/mL, in methanol	4,4´-Dibromooctafluorobiphenyl (DBOB)	1 x 1 mL	PPS-173-1

EPA Method 8240B

Volatile halocarbons

Method 8240B is a GC/MS method for the determination of volatile organic compounds in a variety of solid waste matrices. Method 8240B has been deleted from SW-846 (effective with Update III).

Recommended Method 8240B Volatiles Mixture [IX]

Description	Analytes			Total Vol.	Part No.
37 analytes, at 200 µg/mL, in methanol	Acetone Benzene Bromodichloromethane Bromoform 2-Butanone (MEK) Carbon disulfide Carbon tetrachloride Chlorobenzene Chloroform Dibromochloromethane *trans*-1,4-Dichloro-2-butene 1,2-Dichlorobenzene 1,3-Dichlorobenzene	1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene *trans*-1,2-Dichloroethene 1,2-Dichloropropane *cis*-1,3-Dichloropropene *trans*-1,3-Dichloropropene Ethanol Ethylbenzene 2-Hexanone Iodomethane	4-Methyl-2-pentanone (MIBK) Methylene chloride Styrene 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene *o*-Xylene *m*-Xylene *p*-Xylene	1 x 1 mL	PMX-130-1

[IX] Contains appendix IX compounds.

Recommended Method 8240B Volatiles Mixture

Description	Analytes			Total Vol.	Part No.
29 analytes, at 200 µg/mL, in methanol	Acetonitrile Allyl alcohol Allyl chloride Benzyl chloride Bis(2-chloroethyl) sulfide 2-Chloroethanol 3-Chloropropionitrile 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane Dibromomethane	1,3-Dichloro-2-propanol 1,2:3,4-Diepoxybutane 1,4-Dioxane Epichlorohydrin Ethyl methacrylate 2-Hydroxypropionitrile Isobutyl alcohol Malononitrile Methacrylonitrile Methyl methacrylate	Pentachloroethane 2-Picoline Propargyl alcohol Beta-propiolactone Propionitrile *n*-Propylamine Pyridine 1,1,1,2-Tetrachloroethane 1,2,3-Trichloropropane	1 x 1 mL	PMX-141A-1

Nonhalogenated Volatiles Mixture [IX]

Description	Analytes	Total Vol.	Part No.
3 analytes, at 100 µg/mL, in methanol	Acetone Carbon disulfide 2-Hexanone	1 x 1 mL	NVM-8241-1

[IX] Contains appendix IX compounds.

Recommended Standards

EPA Method 8240B	Part No.
Calibration standards	PMX-130-1 PMX-141A-1 DWM-584-1 HC-070-1 HC-491-1 NV-240B-1
Internal standard	STM-270N-1
Surrogate standard	STM-260N-1

Recommended Method 8240B VOC Gas Mixtures [IX]

Description	Analytes			Total Vol.	Part No. 200 µg/mL	Part No. 2,000 µg/mL
6 analytes, in methanol	Bromomethane Chloroethane	Chloromethane Dichlorodifluoromethane	Trichlorofluoromethane Vinyl chloride	1 x 1 mL	DWM-584-1	DWM-544-1

[IX] Contains appendix IX compounds.

Recommended Method 8240B Surrogate Standard Mixtures

Description	Analytes			Total Vol.	Part No. 2,500 µg/mL	Part No. 1,000 µg/mL
3 analytes, in methanol	4-Bromofluorobenzene	1,2-Dichloroethane-d_4	Toluene-d_8	1 x 1 mL	STM-262-1	STM-260N-1

Recommended Method 8240B Internal Standard Mixtures

Description	Analytes			Total Vol.	Part No. 2,500 µg/mL	Part No. 1,000 µg/mL
3 analytes, in methanol	Bromochloromethane	1,4-Difluorobenzene	Chlorobenzene-d_5	1 x 1 mL	STM-272-1	STM-270N-1

Volatiles Calibration Check Compounds Mixture

Description	Analytes			Total Vol.	Part No.
6 analytes, at 2,000 µg/mL, in methanol	Chloroform 1,1-Dichloroethene	1,2-Dichloropropane Ethylbenzene	Toluene Vinyl chloride	1 x 1 mL	CLP-110-1

Recommended Method 8240B Individual Standards

Standards	Concentration	Total Vol.	Part No.
2-Chloroethyl vinyl ether	100 µg/m, in methanol	1 x 1 mL	HC-070-1
Chloroprene (no xylenes)	100 µg/mL, in methanol	1 x 1 mL	HC-491-1
Vinyl acetate	100 µg/mL, in acetonitrile	1 x 1 mL	NV-240B-1

Volatiles System Performance Check Mixture

Description	Analytes			Total Vol.	Part No.
5 analytes, at 2,000 µg/mL, in methanol	Bromoform Chlorobenzene	Chloromethane 1,1-Dichloroethane	1,1,2,2-Tetrachloroethane	1 x 1 mL	CLP-120-1

Volatiles Matrix Spiking Solutions

Description	Analytes			Total Vol.	Part No. 2,500 µg/mL	Part No. 1,000 µg/mL
5 analytes, in methanol	Benzene Chlorobenzene	1,1-Dichloroethene Toluene	Trichloroethene	1 x 1 mL	CLP-102-1	CLP-100N-1

Volatile GC/MS Calibration Standards (BFB)

Standard	Total Vol.	Part No. 25 µg/mL	Part No. 2,000 µg/mL	Part No. 2,500 µg/mL
4-Bromofluorobenzene (BFB), in methanol	1 x 1 mL	STS-111-1	STS-110N-1	STS-112-1

Technical note

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. Agilent therefore packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte. In solution, vinyl acetate reacts rapidly with methanol. To avoid this problem, Agilent prepares vinyl acetate standards in acetonitrile. If a working standard is prepared by diluting this standard into methanol, use the working standard immediately.

EPA Method 8260B

Volatile organic compounds

Method 8260B is a capillary column GC/MS method for volatile organics, using purge and trap or direct injection.

Recommended Method 8260B VOC Mixtures

Description	Analytes			Total Vol.	Part No. 200 µg/mL	Part No. 2,000 µg/mL
60 analytes, in methanol	Benzene	1,2-Dichlorobenzene	Naphthalene	1 x 1 mL	DWM-580-1	DWM-588-1
	Bromobenzene	1,3-Dichlorobenzene	*n*-Propylbenzene			
	Bromochloromethane	1,4-Dichlorobenzene	Styrene			
	Bromodichloromethane	Dichlorodifluoromethane	1,1,1,2-Tetrachloroethane			
	Bromoform	1,1-Dichloroethane	1,1,2,2-Tetrachloroethane			
	Bromomethane	1,2-Dichloroethane	Tetrachloroethene			
	n-Butylbenzene	1,1-Dichloroethene	Toluene			
	sec-Butylbenzene	*cis*-1,2-Dichloroethene	1,2,3-Trichlorobenzene			
	tert-Butylbenzene	*trans*-1,2-Dichloroethene	1,2,4-Trichlorobenzene			
	Carbon tetrachloride	1,2-Dichloropropane	1,1,1-Trichloroethane			
	Chlorobenzene	1,3-Dichloropropane	1,1,2-Trichloroethane			
	Chloroethane	2,2-Dichloropropane	Trichloroethene			
	Chloroform	1,1-Dichloropropene	Trichlorofluoromethane			
	Chloromethane	*cis*-1,3-Dichloropropene	1,2,3-Trichloropropane			
	2-Chlorotoluene	*trans*-1,3-Dichloropropene	1,2,4-Trimethylbenzene			
	4-Chlorotoluene	Ethylbenzene	1,3,5-Trimethylbenzene			
	Dibromochloromethane	Hexachlorobutadiene	Vinyl chloride			
	1,2-Dibromo-3-chloropropane	Isopropylbenzene	*o*-Xylene			
	1,2-Dibromoethane	4-Isopropyltoluene	*m*-Xylene			
	Dibromomethane	Methylene chloride	*p*-Xylene			

Recommended Method 8260B Surrogate Standard Mixture

Description	Analytes	Total Vol.	Part No.
4 analytes, at 2,500 µg/mL, in methanol	4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d_4 Toluene-d_8	1 x 1 mL	STM-530-1

Recommended Method 8260B Internal Standard Mixture

Description	Analytes	Total Vol.	Part No.
3 analytes, at 2,500 µg/mL, in methanol	Chlorobenzene-d_5 1,4-Dichlorobenzene-d_4 Fluorobenzene	1 x 1 mL	STM-520-1



DWM-580-1

EPA Method 8260B Kit

Description	Standards				Part No.
Contains 12 ampoules, 1 x 1 mL of each standard	VOC mixture Volatiles mixture Volatiles mixture Volatiles mixture Volatiles mixture Acrolein/acrylonitrile mix	(DWM-588-1) (PMX-144-1) (PMX-145-1) (PMX-146-1) (NVM-826-1) (AMN-623-1)	2-Chloroethyl Vinyl Ether Chloroprene Chloral hydrate Vinyl acetate Surrogate standard mix Internal standard	(HC-070-1) (HC-491-1) (EPA-1244) (NV-240B) (STM-530-1) (STM-520-1)	DWK-8260

Recommended Standards

EPA Method 8236B	Part No.
Calibration standards	DWM-588-1 PMX-144-1 PMX-145-1 PMX-146-1 NVM-826-1 AMN-623-1 HC-070-1 HC-491-1 NV-240B-1 EPA-1244-1
Internal standard	STM-520-1
Surrogate standard	STM-530-1

Technical note

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. Agilent therefore packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte.

In solution, vinyl acetate reacts rapidly with methanol. To avoid this problem, Agilent prepares vinyl acetate standards in acetonitrile. If a working standard is prepared by diluting this standard into methanol, use the working standard immediately.

Acrolein is known to undergo polymerization with time. Agilent prepares the standards which contain acrolein every month to ensure the accuracy of each standard's certified values. These standards are assigned expiration dates of three months. Agilent strongly recommends that these standards be used as soon as possible after receipt.

EPA Method 8270D

Semivolatile organic compounds and appendix [IX] semivolatiles

Method 8270D is a capillary column GC/MS method for semivolatile organics, using a capillary column.

Recommended Calibration Standards Kit for Appendix IX Compounds by Method 8270D [IX]

Description	Standards		Part No.
Contains 15 ampoules, 1 x 1 mL of each standard	Ethers and phthalates mixture (US-110-1) Chlorinated hydrocarbons mix (US-111-1) Nitrosamines mixture (US-113N-1) Base/neutrals mixture 3 (US-114-1) Base/neutrals mixture 4 (US-115-1) Toxic substances mixture 2 (US-104N-1) PAH mixture 1 (US-106N-1) PAH mixture 2 (US-116N-1)	Phenols mixture 1 (US-107N-1) Phenols mixture 2 (US-117N-1) Pyridines mixture (US-120AN-1) Organochlorine pesticides mixture (US-112B-1) Organophosphorus pesticides mixture (US-119-1) Pesticides mixture (US-118-1) Internal standards mixture (US-108N-1)	US-121K

[IX] Contains appendix IX compounds.

Recommended Complete Method 8270D Standards Kit [IX]

Description	Standards	Part No.
Contains 17 ampoules, Calibration Standards Kit for Method 8270D (US-121K) plus 1 x 1 mL of each standard listed here	Base/neutral surrogate mix (ISM-280N-1) Acids surrogate mix (ISM-290N-1)	SVK-8270

Recommended Standards

EPA Method 8270D	Part No.
Calibration standard	US-121K
Internal standard	US-108N-1
Surrogate standards	ISM-280N-1 ISM-290N-1 ISM-333X

Tips and tools

To view our entire portfolio of over 7,000 standards, all manufactured under ISO 9001, ISO 17025, and Guide 34, visit **www.agilent.com/chem/standards**

Convenient OMNIprep mixtures

OMNIprep Semi-Volatiles Mix 1 [IX]

Description	Analytes			Total Vol.	Part No.
64 analytes, at 1,000 µg/mL, in methylene chloride/benzene (3:1)	Acenaphthene Acenaphthylene Anthracene Azobenzene Benz[*a*]anthracene Benzo[*b*]fluoranthene Benzo[*k*]fluoranthene Benzo[*ghi*]perylene Benzo[*a*]pyrene Bis(2-chloroethoxy) methane Bis(2-chloroethyl) ether Bis(2-ethylhexyl) phthalate Bis(2-chloroisopropyl) ether 4-Bromophenyl phenyl ether Butylbenzyl phthalate Carbazole 4-Chloroaniline 4-Chloro-3-methylphenol 2-Chloronaphthalene 2-Chlorophenol 4-Chlorophenyl phenyl ether	Chrysene Dibenz[*a*,*h*]anthracene Dibenzofuran Di-*n*-butyl phthalate 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4-Dichlorophenol Diethyl phthalate 2,4-Dimethylphenol Dimethyl phthalate 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene Di-*n*-octyl phthalate Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane	Indeno[1,2,3-*cd*]pyrene Isophorone 2-Methyl-4,6-dinitrophenol 2-Methylnaphthalene 2-Methylphenol (*o*-cresol) 4-Methylphenol (*p*-cresol) Naphthalene 2-Nitroaniline 3-Nitroaniline 4-Nitroaniline Nitrobenzene 2-Nitrophenol 4-Nitrophenol *N*-Nitrosodimethylamine *N*-Nitrosodi-*n*-propylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	1 x 1 mL	SVM-8270-1

[IX] Contains appendix IX compounds.

OMNIprep Semi-Volatiles Mix 2 [IX]

Description	Analytes		Total Vol.	Part No.
35 analytes, at 1,000 µg/mL, in methylene chloride	Acetophenone 2-Acetylaminofluorene 4-Aminobiphenyl Aniline Benzyl alcohol 2,6-Dichlorophenol *p*-(Dimethylamino)azobenzene 7,12-Dimethylbenz[*a*]anthracene *m*-Dinitrobenzene Dinoseb (DNBP) Diphenylamine Ethyl methanesulfonate Hexachloropropene Isosafrole 3-Methylcholanthrene Methyl methanesulfonate 3-Methylphenol (*m*-cresol) 1-Naphthylamine	2-Naphthylamine *N*-Nitrosodi-*n*-butylamine *N*-Nitrosodiethylamine *N*-Nitrosomethylethylamine *N*-Nitrosomorpholine *N*-Nitrosopiperidine *N*-Nitrosopyrrolidine 5-Nitro-*o*-toluidine Pentachlorobenzene Pentachloroethane Pentachloronitrobenzene Phenacetin Safrole 1,2,4,5-Tetrachlorobenzene 2,3,4,6-Tetrachlorophenol *o*-Toluidine 1,3,5-Trinitrobenzene	1 x 1 mL	SVM-8271-1

[IX] Contains appendix IX compounds.



SVM-8270-1

Calibration mixtures for EPA Method 8270D

Recommended Method 8270D Toxic Substances Mix 2 [IX]

Description	Analytes			Total Vol.	Part No.
8 analytes, at 2,000 µg/mL, in methylene chloride	Aniline Benzyl alcohol 4-Chloroaniline	Dibenzofuran 2-Methylnaphthalene 2-Nitroaniline	3-Nitroaniline 4-Nitroaniline	1 x 1 mL	US-104N-1

[IX] Contains appendix IX compounds.

Recommended Method 8270D PAH Mixture [IX]

Description	Analytes			Total Vol.	Part No.
16 analytes, at 2,000 µg/mL, in methylene chloride/benzene (1:1)	Acenaphthene Acenaphthylene Anthracene Benz[*a*]anthracene Benzo[*b*]fluoranthene Benzo[*k*]fluoranthene	Benzo[*ghi*]perylene Benzo[*a*]pyrene Chrysene Dibenz[*a,h*]anthracene Fluoranthene	Fluorene Indeno[1,2,3-*cd*]pyrene Naphthalene Phenanthrene Pyrene	1 x 1 mL	US-106N-1

[IX] Contains appendix IX compounds.

Recommended Method 8270D Phenols Mixture [IX]

Description	Analytes			Total Vol.	Part No.
11 analytes, at 2,000 µg/mL, in methylene chloride	4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol	2,4-Dinitrophenol 2-Methyl-4,6-dinitrophenol 2-Nitrophenol 4-Nitrophenol	Pentachlorophenol Phenol 2,4,6-Trichlorophenol	1 x 1 mL	US-107N-1

[IX] Contains appendix IX compounds.

Recommended Method 8270D Ethers and Phthalates Mixture [IX]

Description	Analytes			Total Vol.	Part No.
11 analytes, at 2,000 µg/mL, in methylene chloride	Bis(2-chloroethoxy)methane Bis(2-chloroethyl) ether Bis(2-ethylhexyl) phthalate Bis(2-chloroisopropyl) ether	4-Bromophenyl phenyl ether Butyl benzyl phthalate 4-Chlorophenyl phenyl ether Diethyl phthalate	Dimethyl phthalate Di-*n*-butyl phthalate Di-*n*-octyl phthalate	1 x 1 mL	US-110-1

[IX] Contains appendix IX compounds.

Recommended Method 8270D Chlorinated Hydrocarbons Mix [IX]

Description	Analytes			Total Vol.	Part No.
13 analytes, at 2,000 µg/mL, in methylene chloride	2-Chloronaphthalene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Hexachlorobenzene	Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Hexachloropropene	Pentachlorobenzene Pentachloroethane 1,2,4,5-Tetrachlorobenzene 1,2,4-Trichlorobenzene	1 x 1 mL	US-111-1

[IX] Contains appendix IX compounds.

Recommended Method 8270D Organochlorine Pesticides Mix [IX]

Description	Analytes			Total Vol.	Part No. 2.000 µg/mL in Acetone	Part No. 2,000 µg/mL in Hexane/Toluene (1:1)
17 analytes	Aldrin α-BHC β-BHC δ-BHC γ-BHC 4,4´-DDD	4,4´-DDE 4,4´-DDT Dieldrin Endosulfan I Endosulfan II Endosulfan sulfate	Endrin Endrin aldehyde Heptachlor Heptachlor epoxide (B) Methoxychlor	1 x 1 mL	US-112B-1	US-112A-1

[IX] Contains appendix IX compounds.

EPA Method 8280B and 8290A

Polychlorinated dibenzo-*p*-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs)

EPA Methods 8280B and 8290A are high-resolution GC methods. Method 8280B uses low-resolution mass spectrometry for detection (HRGC/LRMS), while 8290A uses high-resolution mass spectrometry (HRGC/HRMS) to quantitate the compounds of interest.

Methods 8280B and 8290A Chlorinated Dibenzo-*p*-dioxin Mix

Description	Analytes		Total Vol.	Part No.
5 analytes, at 10 µg/mL, in toluene	2,3,7,8-Tetrachlorodibenzo-*p*-dioxin 1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin 1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin	1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin Octachlorodibenzo-p-dioxin	1 x 1 mL	RPE-065M-1

Methods 8280B and 8290A Chlorinated Dibenzofuran Mixture

Description	Analytes		Total Vol.	Part No.
5 analytes, at 10 µg/mL, in toluene	2,3,7,8-Tetrachlorodibenzofuran 1,2,3,7,8-Pentachlorodibenzofuran 1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,4,6,7,8-Heptachlorodibenzofuran Octachlorodibenzofuran	1 x 1 mL	RPE-045M-1

Chlorinated Dibenzo-*p*-dioxin and Dibenzofuran Standards

Standards	Concentration	Total Vol.	Part No.
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin*	50 µg/mL, in toluene	1 x 1 mL	RPE-029S-1
1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin			RPE-056S-1
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin			RPE-058S-1
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin			RPE-063S-1
Octachlorodibenzo-*p*-dioxin			RPE-017S-1
2,3,7,8-Tetrachlorodibenzofuran			RPE-037S-1
1,2,3,7,8-Pentachlorodibenzofuran			RPE-042S-1
1,2,3,4,7,8-Hexachlorodibenzofuran			RPE-043S-1
1,2,3,4,6,7,8-Heptachlorodibenzofuran			RPE-044S-1
Octachlorodibenzofuran			RPE-019S-1

* The 2,3,7,8-tetrachlorodibenzo-*p*-dioxin solution (RPE-029S) is at a concentration of 10 µg/mL in toluene.

EPA Method 8310

Polynuclear aromatic hydrocarbons

Method 8310 is used to measure polynuclear aromatic hydrocarbons by HPLC.

Recommended Method 8310 PAH Mixture [IX]

Description	Analytes and Concentration				Total Vol.	Part No.
16 analytes, in acetonitrile/methanol (9:1)	Acenaphthene Acenaphthylene Anthracene Benz[*a*]anthracene Benzo[*b*]fluoranthene Benzo[*k*]fluoranthene Benzo[*ghi*]perylene Benzo[*a*]pyrene	1,000 µg/mL 500 µg/mL 20 µg/mL 50 µg/mL 20 µg/mL 20 µg/mL 80 µg/mL 50 µg/mL	Chrysene Dibenz[*a,h*]anthracene Fluoranthene Fluorene Indeno[1,2,3-*cd*]pyrene Naphthalene Phenanthrene Pyrene	50 µg/mL 200 µg/mL 50 µg/mL 100 µg/mL 50 µg/mL 500 µg/mL 40 µg/mL 100 µg/mL	1 x 1 mL	PM-831A-1

[IX] Contains appendix IX compounds.

PAH QC Reference Mixture [IX]

Description	Analytes and Concentration				Total Vol.	Part No.
16 analytes, in acetonitrile	Acenaphthene Acenaphthylene Anthracene Benz[*a*]anthracene Benzo[*b*]fluoranthene Benzo[*k*]fluoranthene Benzo[*ghi*]perylene Benzo[*a*]pyrene	100 µg/mL 100 µg/mL 100 µg/mL 10 µg/mL 10 µg/mL 5 µg/mL 10 µg/mL 10 µg/mL	Chrysene Dibenz[*a,h*]anthracene Fluoranthene Fluorene Indeno[1,2,3-*cd*]pyrene Naphthalene Phenanthrene Pyrene	10 µg/mL 10 µg/mL 10 µg/mL 100 µg/mL 10 µg/mL 100 µg/mL 100 µg/mL 10 µg/mL	1 x 1 mL	PM-613A-1

[IX] Contains appendix IX compounds.

Method 8310 PAH Mixture [IX]

Description	Analytes		Total Vol.	Part No.
16 analytes, at 500 µg/mL, in acetonitrile/acetone/toluene (6:3:1)	Acenaphthene Acenaphthylene Anthracene Benz[*a*]anthracene Benzo[*b*]fluoranthene Benzo[*k*]fluoranthene Benzo[*ghi*]perylene Benzo[*a*]pyrene	Chrysene Dibenz[*a,h*]anthracene Fluoranthene Fluorene Indeno[1,2,3-*cd*]pyrene Naphthalene Phenanthrene Pyrene	1 x 1 mL	PM-831-1

[IX] Contains appendix IX compounds.

Recommended Standard

EPA Method 8310	Part No.
Calibration standard	PM-831A-1

EPA Method 8315A

Carbonyl compounds

Method 8315A is used to determine free carbonyl compounds by derivitization followed by HPLC.

Recommended Method 8315A Carbonyl Compounds Mixture

Description	Analytes			Total Vol.	Part No.
20 analytes, at 100 µg/mL, in acetonitrile	Acetaldehyde Acetone Acrolein Benzaldehyde Butanal (butyraldehyde) Crotonaldehyde Cyclohexanone	Decanal 2,5-Dimethylbenzaldehyde Formaldehyde Heptanal Hexanal (hexaldehyde) Isovaleraldehyde Nonanal	Octanal Pentanal (valeraldehyde) Propanal (propionaldehyde) *o*-Tolualdehyde *m*-Tolualdehyde *p*-Tolualdehyde	1 x 1 mL	ALD-8315-1

Method 8315A Derivatized Carbonyl Compounds Mixture

Description	**Analytes**			**Total Vol.**	**Part No.**
20 analytes, at 100 µg/mL, in acetonitrile	Acetaldehyde-DNPH Acetone-DNPH Acrolein-DNPH Benzaldehyde-DNPH Butanal-DNPH Crotonaldehyde-DNPH Cyclohexanone-DNPH	Decanal-DNPH 2,5-Dimethylbenzaldehyde-DNPH Formaldehyde-DNPH Heptanal-DNPH Hexanal-DNPH Isovaleraldehyde-DNPH Nonanal-DNPH	Octanal-DNPH Pentanal-DNPH Propanal-DNPH *m*-Tolualdehyde-DNPH *o*-Tolualdehyde-DNPH *p*-Tolualdehyde-DNPH	1 x 1 mL	ALD-8315D-1

Aldehydes Mixture

Description	**Analytes**		**Total Vol.**	**Part No.**
2 analytes, at 1,000 µg/mL, in water	Acetaldehyde	Formaldehyde	1 x 1 mL	ALD-100-1

Recommended Standard

EPA Method 8315A	**Part No.**
Calibration standard	ALD-8315-1

EPA Method 8318A

N-methylcarbamates

Method 8318 is used to determine N-methylcarbamates by HPLC.

Recommended Method 8318A Carbamates Mixture

Description	**Analytes**		**Total Vol.**	**Part No.**
10 analytes, at 100 µg/mL, in methanol	Aldicarb Aldicarb sulfone Carbaryl Carbofuran Dioxacarb	3-Hydroxycarbofuran Methiocarb Methomyl Promecarb Propoxur (Baygon)	1 x 1 mL	PPM-831-1

Recommended Standards

EPA Method 8318A	**Part No.**
Calibration standards	PPM-831-1 PPM-831A-1

Recommended Method 8318A Carbamates Mixture

Description	**Analytes**		**Total Vol.**	**Part No.**
6 analytes, at 100 µg/mL, in methanol	Bendiocarb Formetanate hydrochloride Metolcarb	Mexacarbate Oxamyl Thiodicarb	1 x 1 mL	PPM-831A-1

EPA Method 8330A

Nitroaromatics and nitramines (explosives)

Method 8330A is used to measure explosives by HPLC.

Recommended Method 8330A Intermediate Stock Solution 1

Description	Analytes			Total Vol.	Part No.
7 analytes, at 1,000 µg/mL, in acetonitrile	HMX 1,3-Dinitrobenzene 2,4-Dinitrotoluene	Nitrobenzene RDX	1,3,5-Trinitrobenzene 2,4,6-Trinitrotoluene (TNT)	1 x 1 mL	NAIM-833A-1

Recommended Method 8330A Intermediate Stock Solution 2

Description	Analytes			Total Vol.	Part No.
7 analytes, at 1,000 µg/mL, in acetonitrile	2-Amino-4,6-dinitrotoluene 4-Amino-2,6-dinitrotoluene 2,6-Dinitrotoluene	2-Nitrotoluene 3-Nitrotoluene	4-Nitrotoluene Tetryl	1 x 1 mL	NAIM-833B-1

Internal and Surrogate Standards for Method 8330A

Standards	Concentration	Total Vol.	Part No.
3,4-Dinitrotoluene	1,000 µg/mL, in methanol	1 x 1 mL	IST-590-1
1,2-Dinitrobenzene	1,000 µg/mL, in methanol	1 x 1 mL	IST-600-1

Combined Stock Solution

Description	Analytes			Total Vol.	Part No.
12 analytes, at 1,000 µg/mL, in acetonitrile	1,3-Dinitrobenzene 2,4-Dinitrotoluene 2,6-Dinitrotoluene HMX	Nitrobenzene 2-Nitrotoluene 3-Nitrotoluene 4-Nitrotoluene	RDX Tetryl 1,3,5-Trinitrobenzene 2,4,6-Trinitrotoluene (TNT)	1 x 1 mL	NAIM-833E-1

Individual Explosive Standards for Method 8330A

Standards	Concentration	Total Vol.	Part No.
1,3-Dinitrobenzene	100 µg/mL, in methanol	1 x 1 mL	NAI-140-1
2,4-Dinitrotoluene			NAI-100-1
2,6-Dinitrotoluene			NAI-110-1
Nitrobenzene			NAI-130-1
1,3,5-Trinitrobenzene			NAI-170-1
4-Amino-2,6-dinitrotoluene	1,000 µg/mL, in acetonitrile	1 x 1 mL	EPA-1193-1
2-Amino-4,6-dinitrotoluene			EPA-1192-1
HMX			EPA-1221-1
2-Nitrotoluene			EPA-1227-1
3-Nitrotoluene			EPA-1228-1
4-Nitrotoluene			EPA-1229-1
RDX			EPA-1233-1
Tetryl			EPA-1237-1
2,4,6-Trinitrotoluene (TNT)			EPA-1243-1

Recommended Standards

EPA Method 8330A	Part No.
Calibration standards	NAIM-833A-1 NAIM-833B-1

EPA Method 8332

Nitroglycerin

Method 8332 is used to measure nitroglycerin by HPLC.

Nitroglycerin Standard

Description	Analyte	Total Vol.	Part No.
1 analyte, at 10 µg/mL, in acetonitrile	Nitroglycerin	1 x 1 mL	NAI-270-1

EPA Method 8410

Semivolatile organics

Method 8410 is used to measure semivolatile organics by GC/FTIR. It is used to complement Method 8270D.

Internal Standard Mixture

Description	Analytes	Total Vol.	Part No.
2 analytes, at 2,000 µg/mL, in methylene chloride	1-Fluoronaphthalene *p*-terphenyl-d_{14}	1 x 1 mL	ISM-430-1

EPA Method 8440

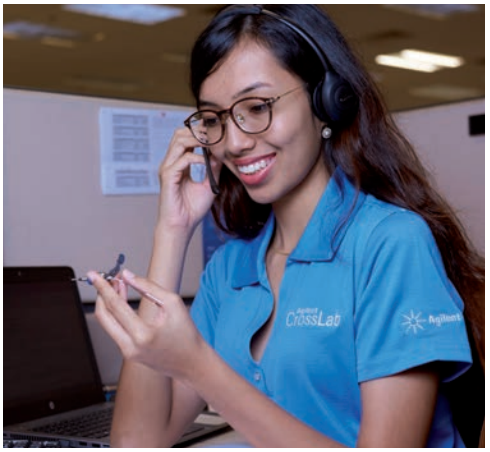
Total recoverable petroleum hydrocarbons

Method 8440 is used to measure total recoverable petroleum hydrocarbons (TRPHs) by IR.

Method 8440 Calibration Oil

Description	Component	%, v/v	Total Vol.	Part No.
3 components	*n*-Hexadecane Isooctane Chlorobenzene	37,50 37,50 25,00	1 x 1 mL	RGO-100-1

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