

FAST FACTS

At-a-Glance
Product
Information
from Restek

EPA Method 8260B

US Environmental Protection Agency (EPA) Method 8260B outlines the analysis of volatile organic pollutants in solid waste and water samples using purge and trap concentration or direct injection with high resolution capillary gas chromatography/mass spectrometry detection (GC/MS). Method 8260B supersedes EPA Methods 8240 and 8260A. The compound lists are similar, however, this new method introduces several compounds that we have included in the 8260B mix.

Restek has carefully reviewed Method 8260B and has prepared a comprehensive product listing to meet most laboratories' needs. Our new standards for Method 8260B include the most commonly analyzed compounds. If your list contains any compounds not in our comprehensive listing, we would be happy to provide custom mixtures to meet your specific compound list.

We continue to offer our original 8260 and 8240 calibration mixtures to laboratories calibrating for the 8260B short lists. Restek also offers all the required surrogate, internal standard, calibration check, matrix spike, and tuning mixtures required for this method; and can provide custom mixtures for specific needs.



Reference Materials for Volatile Organic Compounds

US EPA Method 8260B

- ✓ Fewest mixtures needed for calibration
- ✓ Mixtures formulated for maximum stability
- ✓ Contains the most commonly run compounds

8260B Calibration Mixtures

Feature	Benefit
These eight 8260B calibration mixtures include the most commonly calibrated 8260B target compounds	<i>Maximum shelf life and no chemical interactions, with the smallest number of solutions possible.</i>
76+1-Component mixture @ 2000µg/mL each in P&T methanol. 8260B MegaMix™ Calibration Mix cat.# 30475	<i>Contains most commonly analyzed 8260B target compounds. Maximum shelf life* = 24 months. 2-chloroethyl vinyl ether is provided in a separate ampul.</i>
6-Component gas mixture @ 2000µg/mL each in P&T methanol. 502.2 Calibration Mix #1 cat.# 30042	<i>Contains six room-temperature gases in a separate ampul for ease in preparing working standards. Maximum shelf life* = 36 months.</i>
4-Component ketone mix @ 5000µg/mL each in P&T methanol water (90:10). VOA Calibration Mix #1 cat.# 30006	<i>Contains four ketones in a separate ampul for maximum shelf life. Maximum shelf life* = 36 months.</i>
5-Component acetate mix @ 2000µg/mL each in P&T methanol. 8260B Acetate Mix cat.# 30477	<i>Contains five acetates in a separate ampul for maximum shelf life. Maximum shelf life* = 24 months.</i>
5 Oxygenated compounds in P&T methanol. California Oxygenates Mix cat.# 30465	<i>Contains five of the most commonly analyzed oxygenated compounds in a separate ampul for maximum calibration flexibility. Maximum shelf life* = 36 months.</i>
Ethanol at 10,000µg/mL in water. Ethanol cat.# 30466	<i>A high-concentration ethanol mix suitable for direct injection or P&T. Maximum shelf life* = 36 months.</i>
Acrolein at 10,000µg/mL in P&T methanol.* Acrolein cat.# 30499	<i>An individual, high-concentration acrolein standard for maximum stability and calibration flexibility. Maximum shelf life* = 6 months.</i>
1,2-Dichlorotetrafluoroethane @ 2000µg/mL in P&T methanol 1,2-Dichlorotetrafluoroethane cat.# 30476	<i>An individual Freon® 114 mixture for calibration flexibility. Maximum shelf life* = 36 months.</i>

*Also available in water (cat# 30478).

*Shelf life is based on an unopened ampul stored at the recommended temperature.

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8260B Calibration Mixes

76+1-Component 8260B MegaMix™ Calibration Mix

Ampul 1: 8260B Calibration Mix #1 A

acetonitrile	1,4-dichlorobenzene	methylene chloride
acrylonitrile	<i>cis</i> -1,4-dichloro-2-butene	naphthalene
allyl chloride	<i>trans</i> -1,4-dichloro-2-butene	nitrobenzene
benzene	1,1-dichloroethane	2-nitropropane
bromobenzene	1,2-dichloroethane	pentachloroethane
bromochloromethane	1,1-dichloroethene	propionitrile
bromodichloromethane	<i>cis</i> -1,2-dichloroethene	<i>n</i> -propylbenzene
bromoform	<i>trans</i> -1,2-dichloroethene	styrene
<i>n</i> -butylbenzene	1,2-dichloropropane	1,1,1,2-tetrachloroethane
<i>sec</i> -butylbenzene	1,3-dichloropropane	1,1,1,2,2-tetrachloroethane
<i>tert</i> -butylbenzene	2,2-dichloropropane	tetrachloroethene
carbon disulfide	1,1-dichloropropene	tetrahydrofuran
carbon tetrachloride	<i>cis</i> -1,3-dichloropropene	toluene
chlorobenzene	<i>trans</i> -1,3-dichloropropene	1,2,3-trichlorobenzene
2-chloroethanol	diethyl ether	1,2,4-trichlorobenzene
chloroform	1,4-dioxane	1,1,1-trichloroethane
chloroprene	ethyl methacrylate	1,1,2-trichloroethane
2-chlorotoluene	ethylbenzene	trichloroethene
4-chlorotoluene	hexachlorobutadiene	1,2,3-trichloropropane
dibromochloromethane	iodomethane	1,1,2-trichlorotrifluoroethane (Freon® 113)
1,2-dibromo-3-chloropropane	isobutyl alcohol	1,2,4-trimethylbenzene
1,2-dibromoethane	isopropylbenzene	1,3,5-trimethylbenzene
dibromomethane	<i>p</i> -isopropyltoluene	<i>m</i> -xylene
1,2-dichlorobenzene	methacrylonitrile	<i>p</i> -xylene
1,3-dichlorobenzene	methyl acrylate	<i>o</i> -xylene
	methyl methacrylate	

2000µg/mL each in P&T methanol 1mL per ampul

Ampul 2: 8260B Calibration Mix #1 B

2-chloroethyl vinyl ether

2000µg/mL in P&T methanol 1mL per ampul

Ea.	5-pk.	10-pk.
30475	30475-510	—
with data pack		
30475-500	30475-520	30575

54-Component 502.2 MegaMix™ Mixtures

benzene	1,4-dichlorobenzene	styrene
bromobenzene	1,1-dichloroethane	1,1,1,2-tetrachloroethane
bromochloromethane	1,2-dichloroethane	1,1,2,2-tetrachloroethane
bromodichloromethane	1,1-dichloroethene	tetrachloroethene
bromoform	<i>cis</i> -1,2-dichloroethene	toluene
<i>n</i> -butylbenzene	<i>trans</i> -1,2-dichloroethene	1,2,3-trichlorobenzene
<i>sec</i> -butylbenzene	1,2-dichloropropane	1,2,4-trichlorobenzene
<i>tert</i> -butylbenzene	1,3-dichloropropane	1,1,1-trichloroethane
carbon tetrachloride	2,2-dichloropropane	1,1,2-trichloroethane
chlorobenzene	1,1-dichloropropene	trichloroethene
chloroform	<i>cis</i> -1,3-dichloropropene	1,2,3-trichloropropane
2-chlorotoluene	<i>trans</i> -1,3-dichloropropene	1,2,4-trimethylbenzene
4-chlorotoluene	dichloropropene	1,3,5-trimethylbenzene
dibromochloromethane	ethylbenzene	<i>m</i> -xylene
1,2-dibromo-3-chloropropane	hexachlorobutadiene	<i>o</i> -xylene
1,2-dibromoethane	isopropylbenzene	<i>p</i> -xylene
dibromomethane	<i>p</i> -isopropyltoluene	
1,2-dichlorobenzene	methylene chloride	
1,3-dichlorobenzene	naphthalene	
	<i>n</i> -propylbenzene	

2,000µg/mL each in P&T methanol, 1mL/ampul

Ea.	5-pk.	10-pk.
30431	30431-510	—
with data pack		
30431-500	30431-520	30531

200µg/mL in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30432	30432-510	—
with data pack		
30432-500	30432-520	30532

502.2 Calibration Mix # 1 (gases)

bromomethane chloromethane trichlorofluoromethane
chloroethane dichlorodifluoromethane vinyl chloride

2000µg/mL each in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30042	30042-510	—
with data pack		
30042-500	30042-520	30142

VOA Calibration Mix # 1 (ketones)

acetone 2-hexanone
2-butanone 4-methyl-2-pentanone

5,000µg/mL each in P&T methanol/water (90:10), 1mL per ampul

Ea.	5-pk.	10-pk.
30006	30006-510	—
with data pack		
30006-500	30006-520	30106

California Oxygenates Mix

tert-amyl methyl ether 2,000µg/mL ethyl-*tert*-butyl ether 2,000µg/mL
tert-butyl alcohol 10,000µg/mL methyl-*tert*-butyl ether 2,000µg/mL
diisopropyl ether 2,000µg/mL

in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30465	30465-510	—
with data pack		
30465-500	30465-520	30565

1,2-Dichlorotetrafluoroethane (Freon® 114)

2000ppm in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30476	30476-510	—
with data pack		
30476-500	30476-520	30576

Ethanol

10,000µg/mL in deionized water, 1mL per ampul

Ea.	5-pk.	10-pk.
30466	30466-510	—
with data pack		
30466-500	30466-520	30566

Methanol

10,000µg/mL in deionized water, 1mL per ampul

Ea.	5-pk.	10-pk.
30467	30467-510	—
with data pack		
30467-500	30467-520	30567

8260B Acetate Mix

n-butyl acetate *n*-propyl acetate
ethyl acetate vinyl acetate

isopropyl acetate

2000µg/mL each in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30477	30477-510	—
with data pack		
30477-500	30477-520	30577

8260B Acetate Mix (Revised)

n-amyl acetate isopropyl acetate vinyl acetate
butyl acetate methyl acetate
ethyl acetate propyl acetate

2,000µg/mL each in P&T methanol, 1mL/ampul

Ea.	5-pk.	10-pk.
30489	30489-510	—
with data pack		
30489-500	30489-520	30589

Acrolein

10,000µg/mL in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30499	30499-510	—
with data pack		
30499-500	30499-520	30599

Acrolein

10,000µg/mL in deionized water, 1mL per ampul

Ea.	5-pk.	10-pk.
30478	30478-510	—
with data pack		
30478-500	30478-520	30578

8260B Recommended Internal Standards and Surrogates

8260A/B Internal Standard Mix

chlorobenzene-d5
1,4-dichlorobenzene-d4
fluorobenzene

2500µg/mL each in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30241	30241-510	—
with data pack		
30241-500	30241-520	30341

8260A/B Surrogate Mix

4-bromofluorobenzene 1,2-dichloroethane-d4
dibromofluoromethane toluene-d8

2500µg/mL each in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30240	30240-510	—
with data pack		
30240-500	30240-520	30340

4-Bromofluorobenzene (Tuning Mix)

2500µg/mL in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30067	30067-510	—
with data pack		
30067-500	30067-520	30167

8260B Matrix Spike Mix

benzene trichloroethylene
chlorobenzene toluene
1,1-dichloroethene

2500µg/mL each in P&T methanol, 1mL per ampul

Ea.	5-pk.	10-pk.
30479	30479-510	—
with data pack		
30479-500	30479-520	30579

8000 Series— Solid Waste—Volatiles

Xylene-Free, Highly-Purified Chloroprene Standard

The R&D chemists at Restek developed a novel procedure that produces a pure, quantitative chloroprene solution specially stabilized in purge & trap-grade methanol. The entire procedure is performed under carefully monitored conditions to prevent any contamination or polymerization of the highly reactive, neat chloroprene. The final solution is specially stabilized, allowing analysts to make dilutions for working standards in unmodified purge & trap-grade methanol.

The working level dilution of this product, combined with all other 8240 compounds (8240 VOA Kit, cat.# 30232), has been tested using purge & trap GC/MS. Thorough evaluation of the resultant data indicates that working level solutions may be prepared weekly, by mixing all of the 8240 calibration mixtures with the chloroprene mixture, and diluting to volume with purge & trap-grade methanol. No special care, other than the use of clean glassware and pure purge & trap-grade methanol, is required for the preparation of stable solutions. A detailed instruction sheet is included for persons analyzing modified 8240 target compound lists.

Chloroprene

5,000µg/mL in P&T methanol, 1mL/ampul

Ea.	5-pk.	10-pk.
30238	30238-510	—
w/data pack		
30238-500	30238-520	30338

Alternative 8260B

Optional Internal Standard Mixtures

8260 Surrogate Mix

4-bromofluorobenzenetoluene-d8 toluene-d8
dibromofluoromethane

2,500µg/mL each in P&T methanol, 1mL/ampul

Ea.	5-pk.	10-pk.
30073	30073-510	—
w/data pack		
30073-500	30073-520	30173

8260 Internal Standard Mix

chlorobenzene-d5 1,4-difluorobenzene
1,4-dichlorobenzene-d4 pentafluorobenzene

2,500µg/mL each in P&T methanol, 1mL/ampul

Each	5-pk.	10-pk.
30074	30074-510	—
w/data pack		
30074-500	30074-520	30174

8240/8260 System Performance Check Mix

bromoform 1,1-dichloroethane
chlorobenzene 1,1,2,2-tetrachloroethane
chloromethane

2,000µg/mL each in P&T methanol, 1mL/ampul

Ea.	5-pk.	10-pk.
30075	30075-510	—
w/data pack		
30075-500	30075-520	30175

8240/8260 Calibration Check Mix

chloroform ethylbenzene
1,1-dichloroethene toluene
1,2-dichloropropane vinyl chloride

2,000µg/mL each in P&T methanol, 1mL/ampul

Ea.	5-pk.	10-pk.
30427	30427-510	—
w/data pack		
30427-500	30427-520	30527

Antifoam Agent for Purge & Trap Samples

Foam generated as purge gas passes through a sample can enter the analytical trap, and possibly into the GC column. Our silica-containing antifoam agent will be of great help to analysts performing VOC analysis. It's effective over a wide pH range, and will not conflict with chromatography of target analytes.

Neat, 1mL/ampul

Each	5-pk.
31822	31822-510

for **more** info

See the Custom Reference Materials Request Form inside.

Note: Because chloroprene is analyzed by few laboratories, it is not included in our 8240 VOA Kits. Purchase this product separately if needed.

8260B Short list Calibration Mixtures

BTEX Standard

benzene	<i>m</i> -xylene
ethylbenzene	<i>o</i> -xylene
toluene	<i>p</i> -xylene

2,000µg/mL each in P&T methanol, 1mL/ampul

Ea.	5-pk.	10-pk.
30213	30213-510	—
with data pack		
30213-500	30213-520	30313

502.2 Calibration Mix #1 (gases)

bromomethane	dichlorodifluoromethane
chloroethane	trichlorofluoromethane
chloromethane	vinyl chloride

2,000µg/mL each in P&T methanol, 1mL/ampul

Each	5-pk.	10-pk.
30042	30042-510	—
w/data pack		
30042-500	30042-520	30142

VOA Purgeable Halocarbon Mix #1

bromodichloromethane	1,1-dichloroethene
bromoform	<i>trans</i> -1,2-dichloroethene
carbon tetrachloride	1,2-dichloropropane
chlorobenzene	<i>cis</i> -1,3-dichloropropene
2-chloroethyl vinyl ether	<i>trans</i> -1,3-dichloropropene
chloroform	methylene chloride
dibromochloromethane	1,1,2,2-tetrachloroethane
1,2-dichlorobenzene	tetrachloroethene
1,3-dichlorobenzene	1,1,1-trichloroethane
1,4-dichlorobenzene	1,1,2-trichloroethane
1,1-dichloroethane	trichloroethene
1,2-dichloroethane	

2,000µg/mL each in P&T methanol, 1mL/ampul

Each	5-pk.	10-pk.
30212	30212-510	—
w/data pack		
30212-500	30212-520	30312

8240 Alcohols Mix

allyl alcohol	isobutyl alcohol
2-chloroethanol	propargyl alcohol
ethanol	

2,000µg/mL each in P&T methanol, 1mL/ampul

Ea.	5-pk.	10-pk.
30214	30214-510	—
w/data pack		
30214-500	30214-520	30314

Vinyl Acetate

2,000µg/mL in P&T methanol, 1mL/ampul

Each	5-pk.	10-pk.
30216	30216-510	—
w/data pack		
30216-500	30216-520	30316

VOA Calibration Mix #1 (ketones)

acetone	2-hexanone
2-butanone	4-methyl-2-pentanone

5,000µg/mL each in P&T methanol water (90:10), 1mL/ampul

Each	5-pk.	10-pk.
30006	30006-510	—
w/data pack		
30006-500	30006-520	30106

8240 Volatiles Mix #1A

allyl chloride	<i>trans</i> -1,4-dichloro-2-butene
benzyl chloride	1,4-dioxane
1,2-dibromo-3-chloropropane	iodomethane
1,2-dibromoethane	pentachloroethane
dibromomethane	1,1,1,2-tetrachloroethane
<i>cis</i> -1,4-dichloro-2-butene	1,2,3-trichloropropane

2,000µg/mL each in P&T methanol, 1mL/ampul

Each	5-pk.	10-pk.
30217	30217-510	—
w/data pack		
30217-500	30217-520	30317

8240 Volatiles Mix #2A

carbon disulfide	2-picoline	pyridine
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2,000µg/mL each in P&T methanol, 1mL/ampul

Each	5-pk.	10-pk.
30218	30218-510	—
w/data pack		
30218-500	30218-520	30318

8240 Nitriles Mix

acrylonitrile	methyl methacrylate
ethyl methacrylate	propionitrile
malononitrile	styrene
methacrylonitrile	

2,000µg/mL each in P&T methanol, 1mL/ampul

Each	5-pk.	10-pk.
30215	30215-510	—
w/data pack		
30215-500	30215-520	30315

Rtx®-VMS (Fused Silica)

Stable to 260°C



ID (mm)	df (µm)	temp. limits (°C)	20-Meter	40-Meter	30-Meter	60-Meter	75-Meter	105-Meter
0.18	1.00	-40 to 240/260	49914	49915				
0.25	1.40	-40 to 240/260			19915	19916		
0.32	1.80	-40 to 240/260			19919	19920		
0.45	2.55	-40 to 240/260			19908	19909		
0.53	3.00	-40 to 240/260			19985	19988	19974	

Rtx®-502.2 (Fused Silica)

(EPA Volatiles in Methods 502.2, 524.2) Stable to 270°C

ID (mm)	df (µm)	temp. limits (°C)	20-Meter	40-Meter	30-Meter	60-Meter	75-Meter	105-Meter
0.18	1.00	-20 to 250/270	40914	40915				
0.25	1.40	-20 to 250/270			10915	10916		
0.32	1.80	-20 to 250/270			10919	10920		10921
0.45	2.55	-20 to 250/270					10986	
0.53	3.00	-20 to 250/270			10908	10909		10910



gc columns

Custom Reference Materials Request Form

Take these **eight** steps to create the right solution:

1. Mixture Description: _____
2. Solvent: _____
3. Number of Components: _____
4. Volume per ampul (select): 1mL, 2mL, 5mL, 10mL or other _____mL
5. Quantity of ampuls: _____
6. Testing and documentation that best meets your requirements:
 - Gravimetric Documentation: Lot Sheet with balance printout attached.
 - Qualitative Documentation: Certificate of Composition, Chromatogram, and Gravimetric Documentation.
 - Quantitative Documentation: Certificate of Analysis and Data Pack.

7. Compound(s): (list or attach sheet; include CAS number)

Compound 01: _____	Concentration: _____
Compound 02: _____	Concentration: _____
Compound 03: _____	Concentration: _____
Compound 04: _____	Concentration: _____
Compound 05: _____	Concentration: _____
Compound 06: _____	Concentration: _____
Compound 07: _____	Concentration: _____
Compound 08: _____	Concentration: _____
Compound 09: _____	Concentration: _____
Compound 10: _____	Concentration: _____
Compound 11: _____	Concentration: _____
Compound 12: _____	Concentration: _____
Compound 13: _____	Concentration: _____
Compound 14: _____	Concentration: _____
Compound 15: _____	Concentration: _____
Compound 16: _____	Concentration: _____
Compound 17: _____	Concentration: _____
Compound 18: _____	Concentration: _____
Compound 19: _____	Concentration: _____
Compound 20: _____	Concentration: _____

8. Concentration Units

mg/mL µg/mL _____ ng/mL vol./wt. % _____ wt./wt. % other

Contact Information:

Name: _____ Date: _____

Company/Location: _____

Phone #: _____ FAX #: _____

E-mail: _____

Domestic Customers

FAX#: (814) 355-2895
email: standards@restekcorp.com

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Contact Your Local
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Order custom reference materials quickly and easily online at www.restekcorp.com

ALL mixtures are produced in accordance with our ISO 9001 registration.
Analytical balances are calibrated daily at seven mass levels using NIST traceable weights.
ALL raw materials used are a minimum of 97% pure unless otherwise specified.

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