phenova®
Certified Reference Materials

Make the Switch to Reliability & Convenience

It's Easy to Replace your Environmental Certified Reference Materials (CRMs) with Phenova CRMs!

Calibration, Internal, & Surrogate Standards

ilac-MRA
ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

Cross Reference Guide by Supplier

phenomenex®
...breaking with tradition℠

US

Learn more at
www.phenomenex.com/Standards

A New Standard of Confidence

- **Lot-to-Lot Consistency**
- **Stay in Calibration Longer**
- **Multiple Lots Readily Available**
- **ISO/IEC 17025 & ISO Guide 34 Certified**

Who Needs to Use Certified Reference Materials?

All environmental labs accredited to ISO/IEC 17025 must use CRMs. Even if your lab does not have this accreditation it still benefits from having a high standard, quality product.

Available in the USA and Canada. Soon to arrive in other regions around the globe.

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Keeping You You in Calibration

Phenomenex® is the exclusive distributor of ISO/IEC 17025 & ISO Guide 34 compliant Phenova® Certified Reference Materials (CRMs), which are manufactured and shipped by Phenova, Inc., an experienced environmental proficiency testing provider.

Using the same strict criteria to manufacture proficiency testing standards that have allowed environmental laboratories to maintain or gain their accreditation, Phenova has developed a line of CRMs that challenge competitive products by:

- Reducing the frequency of your initial calibrations
- Producing the lowest possible uncertainties
- Maintaining lot-to-lot consistency
- Minimizing trending

Compound Classes Available

- Volatiles
- Semi-Volatiles
- Pesticides
- Herbicides
- Polychlorinated Biphenyls (PCBs)
- Fuels

High Quality, High Confidence

Phenova® CRMs meet the strict criteria defined under ISO/IEC 17025 and ISO Guide 34. These stringent international guidelines produce extremely accurate and consistent CRMs resulting in improved data quality for your laboratory.

- Raw materials have the highest purity and are characterized using qualified methods and instruments
- All manufacturing labs are ISO-accredited under documented procedures

Chemical Testing Laboratory
Certificate No. 2427.03

Reference Material Producer
Certificate No. 2427.02

Trendy is Not a Good Word for CRMs

Each Phenova CRM lot is qualified by comparing it to internal and independent CRM materials to eliminate the possibility of trending and ensure and that each lot is as consistent as the next.

What consistent lots mean for you:

- Fewer initial calibration events
- Staying in calibration longer
- Analyzing more client samples

Think of all the time and money you'll save and higher sample throughput you will have!

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Inventory You Can Count On

At any point in time there will be multiple lots of each Phenova CRM available and ready to ship at your call.

Dependable and Extensive:

- Inventory is managed with a unique bar-code for every standard and lot
- Manufacturing cycles are forecasted and scheduled with an industry leading Enterprise Resource Planning (ERP) system
- 2-4 lots of each Phenova CRM available

Smart and Simple Packaging

Phenova CRM packaging provides both a form and function, for facilitating ease of handling and storage.

Storage and Organization

- Up to 5 ampoules fit horizontally in a flat-top box allowing you the freedom to easily stack in a vertical square space, and maximize your storage availability

Safe-Guard

- Reduction of phthalate contamination by using deactivated glass ampoules
- Ampoules are packaged with a styrofoam fitting to avoid breakage during handling

That's Pretty Useful

- Write important notes right on the box
- Each ampuole comes with 2 additional labels that you can place on paperwork, auto-sampler and transfer vials, or anywhere you see fit

Safety Comes First

- Every ampoule has its own hazardous communication flag that can be cross referenced to the Hazardous Communication Guide included with the shipment

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Let's Get You Started For Free!

Phenova CRM recommended alternatives are certified reference materials which contain similar analytes to those of your current supplier.

We're here to help!

We'll guide you to find the right Phenova CRMs and set you up with your free samples. Contact your personal technical consultant or email: **PhenovaCRM@phenomenex.com**

Try Phenova CRMs for FREE!

Phenomenex® offers recommended alternatives with Phenova CRMs to those of your current supplier. Verify the performance of Phenova CRMs at no cost to you with a free sample and get started with the most reliable and convenient CRM provider. Restrictions Apply*.

Easily Find Your Alternative

Find recommended Phenova CRM alternatives to your current supplier on-line using our search engine or by using this Cross Reference Guide.

www.phenomenex.com/Standards

* Limited 3 samples per customer.

guarantee

If you are not satisfied with Phenova CRMs for any reason, simply let us know and keep the products for free!*

* Limit US $300, CAD $345

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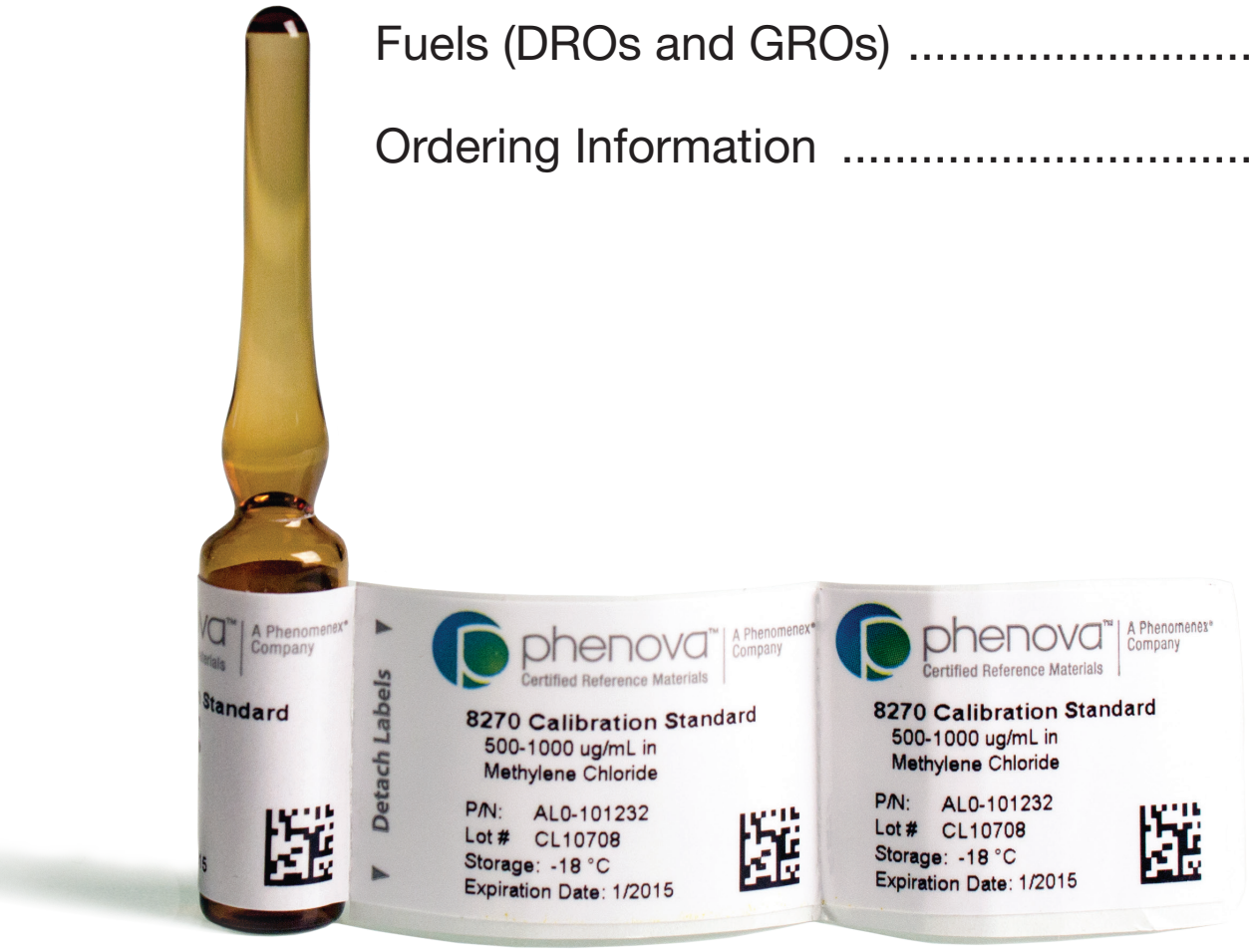

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How to Cross Reference to Other Suppliers

Phenova®
Part Number Information

Competitive Part Number
Information by Supplier

Phenova Recommended Alternative	Phenova® USD	Phenova® CAD	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
			Part Numbers			
SV BNA Surrogate Mix 2000 µg/mL in Methylene Chloride	**AL0-101251**		**31493**	**ISM-331-1**	**47960-U**	**M-8270-SS**

Phenova
Analyte Listing

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
2,4,6-Tribromophenol	118-79-6	✓	✓	✓	✓
2-Fluorobiphenyl	321-60-8	✓	✓	✓	✓
2-Fluorophenyl	367-12-4	✓	✓	✓	✓
		Additional Analytes			
		2-Chlorophenol-d4	phenol-d5	phenol-d5	✓
		1,2-Dichlorobenzene-d4			

Check Mark
Indicates Analyte
Is In Both Phenova
and Competitor
Standard

Additional Analytes Found In Competitor's Part Numbers

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Volatiles

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $90 | CAD $104	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
		Part Numbers			
502.2 Calibration Standard, 2000 µg/mL in P&T Methanol	**AL0-101200**	**30431**	**DWM-589N**	**502111**	**M-502A-R-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1,1,1,2-Tetrachloroethane	630-20-6	✓	✓	✓	✓
1,1,1-Trichloroethane	71-55-6	✓	✓	✓	✓
1,1,2,2-Tetrachloroethane	79-34-5	✓	✓	✓	✓
1,1,2-Trichloroethane	79-00-5	✓	✓	✓	✓
1,1-Dichloroethane	75-34-3	✓	✓	✓	✓
1,1-Dichloroethene	75-35-4	✓	✓	✓	✓
1,1-Dichloropropene	563-58-6	✓	✓	✓	✓
1,2,3-Trichlorobenzene	87-61-6	✓	✓	✓	✓
1,2,3-Trichloropropane	96-18-4	✓	✓	✓	✓
1,2,4-Trichlorobenzene	120-82-1	✓	✓	✓	✓
1,2,4-Trimethylbenzene	95-63-6	✓	✓	✓	✓
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	✓	✓	✓	✓
1,2-Dibromoethane (EDB)	106-93-4	✓	✓	✓	✓
1,2-Dichlorobenzene	95-50-1	✓	✓	✓	✓
1,2-Dichloroethane	107-06-2	✓	✓	✓	✓
1,2-Dichloropropane	78-87-5	✓	✓	✓	✓
1,3,5-Trimethylbenzene	108-67-8	✓	✓	✓	✓
1,3-Dichlorobenzene	541-73-1	✓	✓	✓	✓
1,3-Dichloropropane	142-28-9	✓	✓	✓	✓
1,4-Dichlorobenzene	106-46-7	✓	✓	✓	✓
2,2-Dichloropropane	594-20-7	✓	✓	✓	✓
2-Chlorotoluene	95-49-8	✓	✓	✓	✓
4-Chlorotoluene	106-43-4	✓	✓	✓	✓
4-Isopropyltoluene	99-87-6	✓	✓		
Benzene	71-43-2	✓	✓	✓	✓
Bromobenzene	108-86-1	✓	✓	✓	✓
Bromochloromethane	74-97-5	✓	✓	✓	✓
Bromodichloromethane	75-27-4	✓	✓	✓	✓
Bromoform	75-25-2	✓	✓	✓	✓
Carbon tetrachloride	56-23-5	✓	✓	✓	✓
Chlorobenzene	108-90-7	✓	✓	✓	✓
Chloroform	67-66-3	✓	✓	✓	✓
cis-1,2-Dichloroethene	156-59-2	✓	✓	✓	✓
cis-1,3-Dichloropropene	10061-01-5	✓	✓	✓	✓
Dibromochloromethane	124-48-1	✓	✓	✓	✓
Dibromomethane	74-95-3	✓	✓	✓	✓
Ethylbenzene	100-41-4	✓	✓	✓	✓
Hexachlorobutadiene	87-68-3	✓	✓	✓	✓
Isopropylbenzene	98-82-8	✓	✓	✓	✓
Methylene chloride (dichloromethane)	75-09-2	✓	✓		✓
m-Xylene	108-38-3	✓	✓	✓	✓
Naphthalene	91-20-3	✓	✓	✓	✓
n-Butylbenzene (Butylbenzene)	104-51-8	✓	✓		✓
n-Propylbenzene (Propylbenzene)	103-65-1	✓	✓		✓
o-Xylene	95-47-6	✓	✓	✓	✓
p-Xylene	106-42-3	✓	✓	✓	✓
sec-Butylbenzene	135-98-8	✓	✓	✓	✓
Styrene	100-42-5	✓	✓	✓	✓
tert-Butylbenzene	98-06-6	✓	✓	✓	✓
Tetrachloroethene	127-18-4	✓	✓	✓	✓
Toluene	108-88-3	✓	✓	✓	✓
trans-1,2-Dichloroethene	156-60-5	✓	✓	✓	✓
trans-1,3-Dichloropropene	10061-02-6	✓	✓	✓	✓
Trichloroethene	79-01-6	✓	✓	✓	✓

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Phenova® Recommended Alternative	Phenova® USD $65 | CAD $75	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
		Part Numbers			
502.2 Calibration Standard, 200 µg/mL in P&T Methanol	**AL0-101201**	**30432**	**DWM-589N**	**502111**	**M-502A-R-10X**
		Analytes			
Analytes	**CAS**	**Restek**	**Ultra Scientific**	**Sigma-Aldrich**	**AccuStandard**
1,1,1,2-Tetrachloroethane	630-20-6	✓	✓	✓	✓
1,1,1-Trichloroethane	71-55-6	✓	✓	✓	✓
1,1,2,2-Tetrachloroethane	79-34-5	✓	✓	✓	✓
1,1,2-Trichloroethane	79-00-5	✓	✓	✓	✓
1,1-Dichloroethane	75-34-3	✓	✓	✓	✓
1,1-Dichloroethene	75-35-4	✓	✓	✓	✓
1,1-Dichloropropene	563-58-6	✓	✓	✓	✓
1,2,3-Trichlorobenzene	87-61-6	✓	✓	✓	✓
1,2,3-Trichloropropane	96-18-4	✓	✓	✓	✓
1,2,4-Trichlorobenzene	120-82-1	✓	✓	✓	✓
1,2,4-Trimethylbenzene	95-63-6	✓	✓	✓	✓
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	✓	✓	✓	✓
1,2-Dibromoethane (EDB)	106-93-4	✓	✓	✓	✓
1,2-Dichlorobenzene	95-50-1	✓	✓	✓	✓
1,2-Dichloroethane	107-06-2	✓	✓	✓	✓
1,2-Dichloropropane	78-87-5	✓	✓	✓	✓
1,3,5-Trimethylbenzene	108-67-8	✓	✓	✓	✓
1,3-Dichlorobenzene	541-73-1	✓	✓	✓	✓
1,3-Dichloropropane	142-28-9	✓	✓	✓	✓
1,4-Dichlorobenzene	106-46-7	✓	✓	✓	✓
2,2-Dichloropropane	594-20-7	✓	✓	✓	✓
2-Chlorotoluene	95-49-8	✓	✓	✓	✓
4-Chlorotoluene	106-43-4	✓	✓	✓	✓
4-Isopropyltoluene	99-87-6	✓	✓		
Benzene	71-43-2	✓	✓	✓	✓
Bromobenzene	108-86-1	✓	✓	✓	✓
Bromochloromethane	74-97-5	✓	✓	✓	✓
Bromodichloromethane	75-27-4	✓	✓	✓	✓
Bromoform	75-25-2	✓	✓	✓	✓
Carbon tetrachloride	56-23-5	✓	✓	✓	✓
Chlorobenzene	108-90-7	✓	✓	✓	✓
Chloroform	67-66-3	✓	✓	✓	✓
cis-1,2-Dichloroethene	156-59-2	✓	✓	✓	✓
cis-1,3-Dichloropropene	10061-01-5	✓	✓	✓	✓
Dibromochloromethane	124-48-1	✓	✓	✓	✓
Dibromomethane	74-95-3	✓	✓	✓	✓
Ethylbenzene	100-41-4	✓	✓	✓	✓
Hexachlorobutadiene	87-68-3	✓	✓	✓	✓
Isopropylbenzene	98-82-8	✓	✓	✓	✓
Methylene chloride (dichloromethane)	75-09-2	✓	✓		✓
m-Xylene	108-38-3	✓	✓	✓	✓
Naphthalene	91-20-3	✓	✓	✓	✓
n-Butylbenzene (Butylbenzene)	104-51-8	✓	✓		✓
n-Propylbenzene (Propylbenzene)	103-65-1	✓	✓		✓
o-Xylene	95-47-6	✓	✓	✓	✓
p-Xylene	106-42-3	✓	✓	✓	✓
sec-Butylbenzene	135-98-8	✓	✓	✓	✓
Styrene	100-42-5	✓	✓	✓	✓
tert-Butylbenzene	98-06-6	✓	✓	✓	✓
Tetrachloroethene	127-18-4	✓	✓	✓	✓
Toluene	108-88-3	✓	✓	✓	✓
trans-1,2-Dichloroethene	156-60-5	✓	✓	✓	✓
trans-1,3-Dichloropropene	10061-02-6	✓	✓	✓	✓
Trichloroethene	79-01-6	✓	✓	✓	✓

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Part Numbers				
	Phenova®	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
	USD $39 | CAD $45				
8260 Appendix IX Additions Mix 2000 µg/mL in P&T Methanol	**AL0-101202**			**8S61298**	**M-8240C-R6**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Acetonitrile	75-05-8			✓	✓
1,4-Dioxane	123-91-1			✓	✓
2-Chloroethanol	107-07-3			✓	
2-Nitropropane	79-46-9			✓	
Allyl chloride	107-05-1			✓	✓
Carbon disulfide	75-15-0				
cis-1,4-Dichloro-2-butene	1476-11-5			✓	✓
Diethyl ether	60-29-7			✓	
Ethyl methacrylate	97-63-2			✓	✓
Hexachloroethane	67-72-1			✓	
Iodomethane	74-88-4				
Isobutanol	78-83-1				✓
Methacrylonitrile	126-98-7			✓	✓
Methyl methacrylate	80-62-6			✓	✓
Nitrobenzene	98-95-3			✓	
Propionitrile	107-12-0			✓	
tert-Butanol	75-65-0			✓	
Tetrahydrofuran	109-99-9			✓	
trans-1,4-Dichloro-2-butene	110-57-6			✓	✓

Additional Analytes			
		Acrylonitrile	Ethanol
		tert-Butyl methyl ether	Ethyl methacrylate
		Cyclohexanone	
		Heptane	
		2-Methyl-1-propanol	
		1,1,2-Trichloro-1,2,2-trifluoroethane	

Phenova Recommended Alternative	Part Numbers				
	Phenova	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
	USD $39 | CAD $45				
BTEX Standard 2000 µg/mL in P&T Methanol	**AL0-101203**	**30213**	**BTX-2000N**	**43728**	**ASM-027**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Benzene	71-43-2	✓	✓	✓	✓
Ethylbenzene	100-41-4	✓	✓	✓	✓
m-Xylene	108-38-3	✓	✓	✓	✓
o-Xylene	95-47-6	✓	✓	✓	✓
p-Xylene	106-42-3	✓	✓	✓	✓
Toluene	108-88-3	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
	USD $30 | CAD $35				
BTEX Plus MTBE Standard 2000 µg/mL in P&T Methanol	**AL0-101204**	**30231**	**UST-141-1**	**CRM47505**	**S-603A-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Benzene	71-43-2	✓	✓	✓	✓
Ethylbenzene	100-41-4	✓	✓	✓	✓
Methyl-tert butyl ether (MTBE)	1634-04-4	✓	✓	✓	✓
m-Xylene	108-38-3	✓	✓	✓	✓
o-Xylene	95-47-6	✓	✓	✓	✓
p-Xylene	106-42-3	✓	✓	✓	✓
Toluene	108-88-3	✓	✓	✓	✓

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Phenova® Recommended Alternative	Part Numbers				
	Phenova® USD $30 / CAD $35	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
BTEX Plus MTBE Standard 200 µg/mL in P&T Methanol	**AL0-101205**	**30231**	**UST-141-1**	**CRM47505**	**S-603A-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Benzene	71-43-2	✓	✓	✓	✓
Ethylbenzene	100-41-4	✓	✓	✓	✓
Methyl-tert butyl ether (MTBE)	1634-04-4	✓	✓	✓	✓
m-Xylene	108-38-3	✓	✓	✓	✓
o-Xylene	95-47-6	✓	✓	✓	✓
p-Xylene	106-42-3	✓	✓	✓	✓
Toluene	108-88-3	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $39 / CAD $45	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
VOA Gasses Standard 2000 µg/mL in P&T Methanol	**AL0-101206**	**30042**	**DWM-584**	**5S06036**	**M-502B-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Bromomethane	74-83-9	✓	✓	✓	✓
Chloroethane	75-00-3	✓	✓	✓	✓
Chloromethane	74-87-3	✓	✓	✓	✓
Dichlorodifluoromethane	75-71-8	✓	✓	✓	✓
Trichlorofluoromethane	75-69-4	✓	✓	✓	✓
Vinyl chloride	75-01-4	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $39 / CAD $45	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
VOA Gasses Standard 200 µg/mL in P&T Methanol	**AL0-101207**	**30439**	**DWM-584**	**5S06036**	**M-502B-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Bromomethane	74-83-9	✓	✓	✓	✓
Chloroethane	75-00-3	✓	✓	✓	✓
Chloromethane	74-87-3	✓	✓	✓	✓
Dichlorodifluoromethane	75-71-8	✓	✓	✓	✓
Trichlorofluoromethane	75-69-4	✓	✓	✓	✓
Vinyl chloride	75-01-4	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $35 / CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
California Oxygenates Standard 2000 µg/mL in P&T Methanol	**AL0-101208**	**30465**	**SCA-110-1**	**861257**	**OGAD-001**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Diisopropyl ether (DIPE)	108-20-3	✓	✓	✓	✓
Ethyl-tert-butyl ether (ETBE)	637-92-3	✓	✓	✓	✓
Methyl-tert butyl ether (MTBE)	1634-04-4	✓	✓	✓	✓
tert-Amyl methyl ether (TAME)	994-05-8	✓	✓	✓	✓
tert-Butanol (TBA)	75-65-0	✓	✓	✓	✓

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $39 / CAD $45	Part Numbers: Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
501 Trihalomethanes Standard 2000 µg/mL in P&T Methanol	AL0-101209	30211	THM-511	4M8140-U	M-501-10X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Bromodichloromethane	75-27-4	✓	✓	✓	✓
Bromoform	75-25-2	✓	✓	✓	✓
Chloroform	67-66-3	✓	✓	✓	✓
Dibromochloromethane	124-48-1	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $29 / CAD $33	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
501 Trihalomethanes Standard 200 µg/mL in P&T Methanol	AL0-101210	30036	THM-511	4S8746	M-501

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Bromodichloromethane	75-27-4	✓	✓	✓	✓
Bromoform	75-25-2	✓	✓	✓	✓
Chloroform	67-66-3	✓	✓	✓	✓
Dibromochloromethane	124-48-1	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $35 / CAD $40	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Ketones Standard 2000 µg/mL in P&T Methanol / Water (90:10)	AL0-101211	30006		47428-U	CLP-022K-10X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2-Butanone (MEK)	78-93-3	✓		✓	✓
2-Hexanone	591-78-6	✓		✓	✓
4-Methyl-2-pentanone (MIBK)	108-10-1	✓		✓	✓
Acetone	67-64-1	✓		✓	✓
Additional Analytes				1,1-Dichloro-2-propanone	

Phenova Recommended Alternative	Phenova USD $35 / CAD $40	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Ketones Standard 5000 µg/mL in P&T Methanol / Water (90:10)	AL0-101212	30006		47428-U	CLP-022K-25K

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2-Butanone (MEK)	78-93-3	✓		✓	✓
2-Hexanone	591-78-6	✓		✓	✓
4-Methyl-2-pentanone (MIBK)	108-10-1	✓		✓	✓
Acetone	67-64-1	✓		✓	✓
Additional Analytes				1,1-Dichloro -2-propanone	

Available in the USA and Canada. Soon to arrive in other regions around the globe.

Phenova® Recommended Alternative	Phenova® USD $30 / CAD $35	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
		Part Numbers			
8260 Internal Standard Mix 1 2500 µg/mL in P&T Methanol	**AL0-101213**	**30074**	**STM-341N-1**	**47082-U**	**M-8260-IS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1,4-Dichlorobenzene-d4	3855-82-1	✓	✓	✓	✓
1,4-Difluorobenzene	540-36-3	✓	✓	✓	✓
Chlorobenzene-d5	3114-55-4	✓	✓	✓	✓
Pentafluorobenzene	363-72-4	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 / CAD $35	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
8260 Surrogate Standard 1 2500 µg/mL in P&T Methanol	**AL0-101214**	**30240**	**STM-530-1**	**47778**	**M-8240/ 60-SS-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1,2-Dichloroethane-d4	17060-07-0	✓	✓	✓	✓
4-Bromofluorobenzene	460-00-4	✓	✓	✓	✓
Dibromofluoromethane	1868-53-7	✓	✓	✓	✓
Toluene-d8	2037-26-5	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 / CAD $35	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
8260 Internal Standard Mix 2 2500 µg/mL in P&T Methanol	**AL0-101215**	**30241**	**STM-520-1**	**46839-U**	**M-8260A/ B-IS-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1,4-Dichlorobenzene-d4	3855-82-1	✓	✓	✓	✓
Chlorobenzene-d5	3114-55-4	✓	✓	✓	✓
Fluorobenzene	462-06-6	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $35 / CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
8260 Surrogate Standard Mix 2 2500 µg/mL in P&T Methanol	**AL0-101216**	**30073**	**STM-330N-1**	**48959**	**M-8260-SS-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
4-Bromofluorobenzene	460-00-4	✓	✓	✓	✓
Dibromofluoromethane	1868-53-7	✓	✓	✓	✓
Toluene-d8	2037-26-5	✓	✓	✓	✓

Free sample

Verify the quality and performance of Phenova CRMs for free. Simply try before you buy. Learn more on page 7.

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $35 | CAD $40	Part Numbers: Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
524 Internal Standard Mix 1 2000 µg/mL in P&T Methanol	**AL0-101217**	**30015**	**STM-520-1**	**48948**	**ASM-157**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1,4-Dichlorobenzene-d4	3855-82-1	✓	✓	✓	✓
1,4-Difluorobenzene	540-36-3	✓		✓	✓
Chlorobenzene-d5	3114-55-4	✓	✓	✓	✓
Additional Analytes					
			Fluorobenzene	1,2-Dichlorobenzene-d_4	
				Fluorobenzene	

Phenova Recommended Alternative	Phenova USD $30 | CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
524 Surrogate Standard Mix 2 2000 µg/mL in P&T Methanol	**AL0-101218**	**30607**		**48466**	**M-524-SS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1,2-Dichlorobenzene-d4	2199-69-1	✓		✓	
4-Bromofluorobenzene	460-00-4	✓		✓	✓
Methyl-tert butyl ether-d3 (MTBE-d3)	29366-08-3	✓			
Additional Analytes					
					Dibromofluoromethane
					Toluene-d8

Phenova Recommended Alternative	Phenova USD $29 | CAD $33	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
504.1 Calibration Standard 200 µg/mL in P&T Methanol	**AL0-101219**	**30239**	**DWM-514**	**49119**	**M-504.1-CSS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1,2,3-Trichloropropane	96-18-4	✓	✓	✓	✓
1,2-Dibromo-3-chloropropane	96-12-8	✓	✓	✓	✓
1,2-Dibromoethane	106-93-4	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $29 | CAD $33	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
524 Surrogate Standard Mix 1 2000 µg/mL in P&T Methanol	**AL0-101220**	**30607**	**STM-590**	**48466**	**M-524-SS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1,2-Dichlorobenzene-d4	2199-69-1	✓	✓	✓	✓
4-Bromofluorobenzene	460-00-4	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $29 | CAD $33	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
502.2 Internal Standard Mix 1000 µg/mL in P&T Methanol	**AL0-101221**	**30041**	**STM-240N**	**48950-U**	**M-502-IS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2-Bromo-1-chloropropane	3017-95-6	✓	✓	✓	✓
Fluorobenzene	462-06-6	✓	✓	✓	✓

Available in the USA and Canada. Soon to arrive in other regions around the globe.

Phenova® Recommended Alternative	Part Numbers				
	Phenova® USD $25 | CAD $29	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
1-Chloro-2-fluorobenzene Standard, 1000 µg/mL in P&T Methanol	**AL0-101225**	**30040**	**STS-450-1**	**48369**	**S-163**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1-Chlorofluorobenzene	348-51-6	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4-Bromofluorobenzene 1000 µg/mL in P&T Methanol	**AL0-101226**	**30026**	**STS-110N**	**47937**	**CLP-004-80X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4-Bromofluorobenzene	460-00-4	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova® USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2-Chloroethyl vinyl ether, 2000 µg/mL in P&T Methanol	**AL0-101227**	**30265**	**EPA-1016**	**40017**	**M-601C-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2-Chloroethyl vinyl ether	110-75-8	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Vinyl acetate 2000 µg/mL in Water	**AL0-101228**	**30216**	**EPA-1060**	**40327**	**APP-9-211-20X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Vinyle Acetate	108-05-4	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Fluorobenzene 2000 µg/mL in P&T Methanol	**AL0-101229**	**30030**	**STS-160**		**M-524-IS-2**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Fluorobenzene	462-06-6	✓	✓		✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4-Bromofluorobenzene 2000 µg/mL in P&T Methanol	**AL0-101231**	**30026**	**STS-110N**	**48083**	**CLP-004-80X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4-Bromofluorobenzene	460-00-4	✓	✓	✓	✓

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Certified Reference Materials

SemiVolatiles (BNAs and PAHs)

Phenova® Recommended Alternative	Phenova® USD $115 | CAD $132	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
	Part Numbers				
8270 Calibration Standard 1000 µg/mL in Methylene Chloride	**AL0-101232**	**31850**	**Multiple***	**5S00720**	**Multiple****

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1,2,4-Trichlorobenzene	120-82-1	✓		✓	
1,2-Dichlorobenzene	95-50-1	✓		✓	
1,2-Dinitrobenzene	528-29-0	✓			
1,3-Dichlorobenzene	541-73-1	✓		✓	
1,3-Dinitrobenzene	99-65-0	✓			
1,4-Dichlorobenzene	106-46-7	✓		✓	
1,4-Dinitrobenzene	100-25-4	✓			
1-Methylnaphthalene	90-12-0	✓			
2,3,4,6-Tetrachlorophenol	58-90-2	✓			
2,3,5,6-Tetrachlorophenol	935-95-5	✓			
2,4,5-Trichlorophenol	95-95-4	✓		✓	
2,4,6-Trichlorophenol	88-06-2	✓		✓	
2,4-Dichlorophenol	120-83-2	✓		✓	
2,4-Dimethylphenol	105-67-9	✓		✓	
2,4-Dinitrophenol	51-28-5	✓		✓	
2,4-Dinitrotoluene	121-14-2	✓		✓	
2,6-Dinitrotoluene	606-20-2	✓		✓	
2-Chloronaphthalene	91-58-7	✓		✓	
2-Chlorophenol	95-57-8	✓		✓	
2-Methylnaphthalene	91-57-6	✓		✓	
2-Methylphenol	95-48-7	✓		✓	
2-Nitroaniline	88-74-4	✓		✓	
2-Nitrophenol	88-75-5	✓		✓	
3-Methylphenol	108-39-4	✓			
3-Nitroaniline	99-09-2	✓		✓	
4,6-Dinitro-2-methylphenol	534-52-1	✓		✓	
4-Bromophenyl phenyl ether	101-55-3	✓		✓	
4-Chloro-3-methylphenol	59-50-7	✓		✓	
4-Chloroaniline	106-47-8	✓		✓	
4-Chlorophenyl phenyl ether	7005-72-3	✓		✓	
4-Methylphenol	106-44-5	✓		✓	
4-Nitroaniline	100-01-6	✓		✓	
4-Nitrophenol	100-02-7	✓		✓	
Acenaphthene	83-32-9	✓		✓	
Acenaphthylene	208-96-8	✓		✓	
Aniline	62-53-3	✓			
Anthracene	120-12-7	✓		✓	
Azobenzene	103-33-3	✓		✓	
Benzo(a)anthracene	56-55-3	✓		✓	
Benzo(a)pyrene	50-32-8	✓		✓	
Benzo(b)fluoranthene	205-99-2	✓		✓	
Benzo(g,h,i)perylene	191-24-2	✓		✓	
Benzo(k)fluoranthene	207-08-9	✓		✓	
Benzyl alcohol	100-51-6	✓			
Benzyl butyl phthalate	85-68-7	✓		✓	
Bis(2-chloroethoxy)methane	111-91-1	✓		✓	
Bis(2-chloroethyl)ether	111-44-4	✓		✓	
Bis(2-chloroisopropyl)ether	108-60-1	✓		✓	
Bis(2-ethylhexyl)adipate	103-23-1	✓			
Bis(2-ethylhexyl)phthalate	117-81-7	✓		✓	
Carbazole	86-74-8	✓		✓	
Chrysene	218-01-9	✓		✓	
Dibenz(a,h)anthracene	53-70-3	✓		✓	
Dibenzofuran	132-64-9	✓		✓	
Diethyl phthalate	84-66-2	✓		✓	
Dimethyl phthalate	131-11-3	✓		✓	
Di-n-butyl phthalate	84-74-2	✓		✓	
Fluoranthene	206-44-0	✓		✓	

AL0-101232 continues on the next page

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $115 | CAD $132	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
		Part Numbers			
cont'd 8270 Calibration Standard 1000 µg/mL in Methylene Chloride	**AL0-101232**	**31850**	**Multiple***	**5S00720**	**Multiple****

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
Fluorene	86-73-7	✓		✓	
Hexachlorobenzene	118-74-1	✓		✓	
Hexachlorobutadiene	87-68-3	✓		✓	
Hexachlorocyclopentadiene	77-47-4	✓		✓	
Hexachloroethane	67-72-1	✓		✓	
Indeno(1,2,3-cd)pyrene	193-39-5	✓		✓	
Isophorone	78-59-1	✓		✓	
Naphthalene	91-20-3	✓		✓	
Nitrobenzene	98-95-3	✓		✓	
N-Nitrosodimethylamine	62-75-9	✓		✓	
N-Nitroso-di-n-propylamine	621-64-7	✓		✓	
Pentachlorophenol	87-86-5	✓		✓	
Phenanthrene	85-01-8	✓		✓	
Phenol	108-95-2	✓		✓	
Pyrene	129-00-0	✓		✓	
Pyridine	110-86-1	✓			

*Ultra Scientific®: SVM-120A, SVM,121-1, SVM-122, SVM-123, SVM-124, SVM-125, SVM-127, SVM-128
**AccuStandard®: M-8270-01, M-8270-02-R1, M-8270-03, M-8270-04A, M-8270-04b-R1, M-8270-05, M-8270-06

Phenova Recommended Alternative	Phenova USD $85 | CAD $98	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
PAH Plus Methylnaphthalenes 2000 µg/mL in Methylene Chloride	**AL0-101233**	**31995**	**PM-525B-1**	**CRM47940**	**Z-014G-FL**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1-Methylnaphthalene	90-12-0	✓			✓
2-Methylnaphthalene	91-57-6	✓			✓
Acenaphthene	83-32-9	✓		✓	✓
Acenaphthylene	208-96-8	✓	✓	✓	✓
Anthracene	120-12-7	✓	✓	✓	✓
Benzo(a)anthracene	56-55-3	✓	✓	✓	✓
Benzo(a)pyrene	50-32-8	✓	✓	✓	✓
Benzo(b)fluoranthrene	205-99-2	✓	✓	✓	✓
Benzo(g,h,i)perylene	191-24-2	✓	✓	✓	✓
Benzo(k)fluoranthrene	207-08-9	✓	✓	✓	✓
Chrysene	218-01-9	✓	✓	✓	✓
Dibenzo(a,h)anthracene	53-70-3	✓	✓	✓	✓
Fluoranthene	206-44-0	✓		✓	✓
Fluorene	86-73-7	✓	✓	✓	✓
Indeno(1,2,3-cd)pyrene	193-39-5	✓	✓	✓	✓
Naphthalene	91-20-3	✓		✓	✓
Phenanthrene	85-01-8	✓	✓	✓	✓
Pyrene	129-00-0	✓	✓	✓	✓

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Phenova® Recommended Alternative	Phenova® USD $55 / CAD $63	Part Numbers: Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
8270 Phenols Standard 2000 µg/mL in Methylene Chloride	**AL0-101234**	**31618**	**PHM-834A-1**	**47377**	**M-8041**
		Analytes			
Analytes	**CAS**	**Restek**	**Ultra Scientific**	**Sigma-Aldrich**	**AccuStandard**
2,3,4,6-Tetrachlorophenol	58-90-2	✓	✓	✓	✓
2,3,5,6-Tetrachlorophenol	935-95-5		✓		✓
2,4,5-Trichlorophenol	95-95-4	✓	✓	✓	✓
2,4,6-Trichlorophenol	88-06-2	✓	✓	✓	✓
2,4-Dichlorophenol	120-83-2	✓	✓	✓	✓
2,4-Dimethylphenol	105-67-9	✓	✓	✓	✓
2,4-Dinitrophenol	51-28-5	✓	✓	✓	✓
2,6-Dichlorophenol	87-65-0	✓	✓	✓	✓
2-Chlorophenol	95-57-8	✓	✓	✓	✓
2-Methylphenol	95-48-7	✓	✓	✓	✓
2-Nitrophenol	88-75-5	✓	✓	✓	✓
3-Methylphenol	108-39-4	✓	✓	✓	✓
4,6-Dinitro-2-methylphenol	534-52-1	✓	✓	✓	✓
4-Chloro-3-Methylphenol	59-50-7	✓	✓	✓	✓
4-Methylphenol	106-44-5	✓	✓	✓	✓
4-Nitrophenol	100-02-7	✓	✓	✓	✓
Dinoseb	88-85-7	✓	✓	✓	✓
Pentachlorophenol	87-86-5	✓	✓	✓	✓
Phenol	108-95-2	✓	✓	✓	✓
		Additional Analytes			
		Benzoic Acid	2,3,5,6-tetrachlorophenol		2,3,4,5-Tetrachlorophenol
			2-cyclohexyl-4,6-dinitrophenol		2-Cyclohexyl-4,6-dinitrophenol

Phenova Recommended Alternative	Phenova USD $40 / CAD $46	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Appendix IX Mix 1 2000 ug/mL in Methylene Chloride	**AL0-101235**	**32459**	**us114**	**4S6701-U**	**M-8270-04-ASL-R1**
		Analytes			
Analytes	**CAS**	**Restek**	**Ultra Scientific**	**Sigma-Aldrich**	**AccuStandard**
1,4-Phenylenediamine	106-50-3	✓	✓		✓
1-Naphthylamine	134-32-7	✓	✓		✓
2-Acetylaminofluorene	53-96-3	✓	✓		✓
2-Naphthylamine	91-59-8	✓	✓		✓
2-Picoline	109-06-8	✓			
3,3'-Dimethylbenzidine	119-93-7	✓	✓		✓
4-Aminobiphenyl	92-67-1	✓	✓		✓
5-Nitro-o-toluidine	99-55-8	✓	✓		✓
N-Nitrosodiethylamine	55-18-5	✓			
N-Nitrosodi-n-butylamine	924-16-3	✓			
N-Nitrosomethylethylamine	10595-95-6	✓			
N-Nitrosomorpholine	59-89-2	✓			
N-Nitrosopiperidine	100-75-4	✓			
N-Nitrosopyrrolidine	930-55-2	✓			
o-Toluidine	95-53-4	✓	✓		✓
p-Dimethylaminoazobenzene	60-11-7	✓	✓		✓
		Additional Analytes			
		α,α-Dimethyl-phenethylamine (phentermine)	α,α-Dimethyl-phenethylamine (phentermine)		Diphenylamine
			diphenylamine		Phenacetin
			phenacetin		3,3'-Dichlorobenzidine

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $85 / CAD $98	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
		Part Numbers			
PAH Standard 2000 µg/mL in Methylene Chloride	**AL0-101236**	**31995**	**PM-525B-1**	**CRM47940**	**Z-014G-FL**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
Acenaphthene	83-32-9	✓	✓		✓
Acenaphthylene	208-96-8	✓	✓	✓	✓
Anthracene	120-12-7	✓	✓	✓	✓
Benzo(a)anthracene	56-55-3	✓	✓	✓	✓
Benzo(a)pyrene	50-32-8	✓	✓	✓	✓
Benzo(b)fluoranthrene	205-99-2	✓	✓	✓	✓
Benzo(ghi)perylene	191-24-2	✓	✓	✓	✓
Benzo(k)fluoranthrene	207-08-9	✓	✓	✓	✓
Chrysene	218-01-9	✓	✓	✓	✓
Dibenz(a,h)anthracene	53-70-3	✓	✓	✓	✓
Fluoranthene	206-44-0	✓	✓	✓	✓
Fluorene	86-73-7	✓	✓	✓	✓
Indeno(1,2,3-cd)pyrene	193-39-5	✓	✓	✓	✓
Naphthalene	91-20-3	✓	✓	✓	✓
Phenanthrene	85-01-8	✓	✓	✓	✓
Pyrene	129-00-0	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $55 / CAD $63	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
Appendix IX Mix 2 2000 µg/mL in Methylene Chloride	**AL0-101237**	**31806**	**US-115**		**S-183**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1,2,4,5-Tetrachlorobenzene	95-94-3	✓			✓
1,3,5-Trinitrobenzene	99-35-4	✓	✓		
1,4-Naphthoquinone	130-15-4	✓	✓		
1-Chloronaphthalene	90-13-1	✓			
2,6-Dichlorophenol	87-65-0	✓			
4-Nitroquinoline-n-oxide	56-57-5	✓			
7,12-Dimethylbenz(a)anthracene	57-97-6	✓			✓
Acetophenone	98-86-2	✓	✓		✓
Chlorobenzilate	510-15-6	✓			✓
Ethyl methanesulfonate	62-50-0	✓	✓		✓
Hexachloropropene	1888-71-7	✓			
Isosafrole	120-58-1	✓	✓		✓
Methyl methanesulfonate	66-27-3	✓	✓		✓
Pentachlorobenzene	608-93-5				✓
Pentachloronitrobenzene	82-68-8	✓	✓		✓
Phenacetin	62-44-2	✓			✓
Safrole	94-59-7	✓	✓		✓
Pyrene	129-00-0				
		Additional Analytes			
		Aramite	m-dinitrobenzene		2-Methylnaphthalene
		Atrazine	2,4-dinitrotoluene		2-Picoline
		Benzaldehyde	isophrone		3,3'-Dimethylbenzidine
		Biphenyl	nitrobenzene		3-Methylcholanthrene
		ε-Caprolactam			m-Dinitrobenzene
		Diallate			Methapyrilene
		Dibenz(a,j)acridine			0,0,0-Triethylphosphorothioate
		1,4-Dioxane			
		Diphenyl ether			
		Ethyl methacrylate			
		Isodrin			
		Kepone			
		3-Methylcholanthrene			
		Pentachloroethane			
		Propyzamide			

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Phenova® Recommended Alternative	Phenova®	Part Numbers			
	USD $85 | CAD $98	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
SV Internal Standard Mix 4000 µg/mL in Methylene Chloride	**AL0-101238**	**31006**	**US-108N**	**861238**	**Z-014J**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1,4-Dichlorobenzene-d4	3855-82-1	✓	✓	✓	✓
Acenaphthene-d10	15067-26-2	✓	✓	✓	✓
Chrysene-d12	1719-03-5	✓	✓	✓	✓
Naphthalene-d8	1146-65-2	✓	✓	✓	✓
Perylene-d12	1520-96-3	✓	✓	✓	✓
Phenanthrene-d10	1517-22-2	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova	Part Numbers			
	USD $35 | CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
SV B/N Surrogate Mix 2000 µg/mL in Methylene Chloride	**AL0-101239**	**31024**	**US-108N**	**48925**	**Z-014J**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2-Fluorobiphenyl	321-60-8	✓	✓	✓	✓
Nitrobenzene-d5	4165-60-0	✓	✓	✓	✓
p-Terphenyl-d14	1718-51-0	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova	Part Numbers			
	USD $35 | CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
SV B/N Surrogate Mix 5000 µg/mL in Methylene Chloride	**AL0-101240**	**31062**	**ISM-280N-1**	**861252**	**CLP-BNS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2-Fluorobiphenyl	321-60-8	✓	✓	✓	✓
Nitrobenzene-d5	4165-60-0	✓	✓	✓	✓
p-Terphenyl-d14	1718-51-0	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova	Part Numbers			
	USD $35 | CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
SV Acids Surrogate Mix 2000 µg/mL in Methanol	**AL0-101241**	**31025**	**ISM-290N-1**	**48875**	**CLP-AS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2,4,6-Tribromophenol	118-79-6	✓	✓	✓	✓
2-Fluorophenol	367-12-4	✓	✓	✓	✓
Phenol-d6	13127-88-3	✓		✓	

Phenova Recommended Alternative	Phenova	Part Numbers			
	USD $35 | CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
SV Acids Surrogate Mix 5000 µg/mL in Methanol	**AL0-101242**	**31025**	**ISM-290N-1**	**48875**	**CLP-AS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2,4,6-Tribromophenol	118-79-6	✓	✓	✓	✓
2-Fluorophenol	367-12-4	✓	✓	✓	✓
Phenol-d6	13127-88-3	✓		✓	

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $35 | CAD $40	Part Numbers: Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
8270 Benzidines Standard 2000 µg/mL in Methylene Chloride	AL0-101243	31852	US-105N	48906	M-605-10X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
3,3'-Dichlorobenzidine	91-94-1	✓	✓	✓	✓
3,3'-Dimethylbenzidine	119-93-7	✓			*
Benzidine	92-87-5	✓	✓	✓	✓

*3,3'-Dimethylbenzidine found in part number APP-9-085-20X

Phenova Recommended Alternative	Phenova USD $30 | CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Benzidines Standard 2000 µg/mL in Methylene Chloride	AL0-101244	31852	US-105N	48906	M-605-10X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
3,3'-Dichlorobenzidine	91-94-1	✓		✓	✓
Benzidine	92-87-5	✓		✓	✓
Additional Analytes					
3,3′-Dimethylbenzidine					

Phenova Recommended Alternative	Phenova USD $25 | CAD $29	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
N-Nitrosodiphenylamine, 1000 µg/mL in Methylene Chloride	AL0-101245	31429		46702-U	APP-9-150-M-10X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
N-Nitrosodiphenylamine	86-30-6	✓		✓	✓

Phenova Recommended Alternative	Phenova USD $25 | CAD $29	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Benzoic Acid 2000 µg/mL in Methylene Chloride	AL0-101246	31879		47508-U	Z-014D-1

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Benzoic Acid	65-85-0	✓		✓	✓

Phenova Recommended Alternative	Phenova® USD $60 | CAD $69	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
SV BNA Surrogate Mix 2000 µg/mL in Methylene Chloride	AL0-101251	31493	ISM-331-1	47960-U	M-8270-SS

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2,4,6-Tribromophenol	118-79-6	✓		✓	
2-Fluorobiphenyl	321-60-8	✓	✓	✓	✓
2-Fluorophenol	367-12-4	✓	✓	✓	✓
Nitrobenzene-d5	4165-60-0	✓	✓	✓	✓
Phenol-d6	13127-88-3	✓	✓	✓	✓
p-Terphenyl-d14	1718-51-0	✓	✓	✓	✓
Additional Analytes					
2-Chlorophenol-d4		phenol-d5	phenol-d5		
1,2-Dichlorobenzene-d4					

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Phenova® Recommended Alternative	Part Numbers				
	Phenova®	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
	USD $60 | CAD $69				
SV BNA Surrogate Mix 4000 µg/mL in Methylene Chloride	**AL0-101252**	**31493**	**ISM-331-1**	**47960-U**	**M-8270-SS**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
2,4,6-Tribromophenol	118-79-6	✓		✓	
2-Fluorobiphenyl	321-60-8	✓	✓	✓	✓
2-Fluorophenol	367-12-4	✓	✓	✓	✓
Nitrobenzene-d5	4165-60-0	✓	✓	✓	✓
Phenol-d6	13127-88-3	✓	✓	✓	✓
p-Terphenyl-d14	1718-51-0	✓	✓	✓	✓
		Additional Analytes			
		2-Chlorophenol-d4	phenol-d5	phenol-d5	
		1,2-Dichlorobenzene-d4			

Phenova Recommended Alternative	Part Numbers				
	Phenova	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
	USD $35 | CAD $40				
GC/MS Tuning Mix 1000 µg/mL in Methylene Chloride	**AL0-101291**	**31615**	**8550-5593**	**47387**	**M-625-TS-PAK**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
4,4'-DDT	50-29-3	✓	✓	✓	✓
Benzidine	92-87-5	✓	✓	✓	✓
Decafluorotriphenylphosphine (DFTPP)	5074-71-5	✓	✓	✓	✓
Pentachlorophenol	87-86-5	✓	✓	✓	✓

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Pesticides/ Herbicides

Phenova® Recommended Alternative	Part Numbers				
	Phenova® USD $75 | CAD $86	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
8081 Chlorinated Pesticides 1000 µg/mL in Hexane/Toluene	**AL0-101253**	**32415**	**US-127**	**CRM47426**	**M-8081-SC**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4,4'-DDD	72-54-8	✓	✓	✓	✓
4,4'-DDE	72-55-9	✓	✓	✓	✓
4,4'-DDT	50-29-3	✓	✓	✓	✓
Aldrin	309-00-2	✓	✓	✓	✓
alpha-BHC	319-84-6	✓	✓	✓	✓
beta-BHC	319-85-7	✓	✓	✓	✓
cis-Chlordane	5103-71-9	✓	✓	✓	✓
delta-BHC	319-86-8	✓	✓	✓	✓
Dieldrin	60-57-1	✓	✓	✓	✓
Endosulfan I	959-98-8	✓	✓	✓	✓
Endosulfan II	33213-65-9	✓	✓	✓	✓
Endosulfan Sulfate	1031-07-8	✓	✓	✓	✓
Endrin	72-20-8	✓	✓	✓	✓
Endrin Aldehyde	7421-93-4	✓	✓	✓	✓
Endrin Ketone	53494-70-5	✓	✓	✓	✓
gamma-BHC (lindane)	58-89-9	✓	✓	✓	✓
Heptachlor	76-44-8	✓	✓	✓	✓
Heptachlor Epoxide (isomer B)	1024-57-3	✓	✓	✓	✓
Methoxychlor	72-43-5	✓	✓	✓	✓
trans-Chlordane	5103-74-2	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $75 | CAD $86	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
8081 Chlorinated Pesticides Standard 2000 µg/mL in Hexane/Toluene	**AL0-101254**	**32415**	**US-127**	**CRM47426**	**M-8081-SC**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4,4'-DDD	72-54-8	✓	✓	✓	✓
4,4'-DDE	72-55-9	✓	✓	✓	✓
4,4'-DDT	50-29-3	✓	✓	✓	✓
Aldrin	309-00-2	✓	✓	✓	✓
alpha-BHC	319-84-6	✓	✓	✓	✓
beta-BHC	319-85-7	✓	✓	✓	✓
cis-Chlordane	5103-71-9	✓	✓	✓	✓
delta-BHC	319-86-8	✓	✓	✓	✓
Dieldrin	60-57-1	✓	✓	✓	✓
Endosulfan I	959-98-8	✓	✓	✓	✓
Endosulfan II	33213-65-9	✓	✓	✓	✓
Endosulfan Sulfate	1031-07-8	✓	✓	✓	✓
Endrin	72-20-8	✓	✓	✓	✓
Endrin Aldehyde	7421-93-4	✓	✓	✓	✓
Endrin Ketone	53494-70-5	✓	✓	✓	✓
gamma-BHC (lindane)	58-89-9	✓	✓	✓	✓
Heptachlor	76-44-8	✓	✓	✓	✓
Heptachlor Epoxide (isomer B)	1024-57-3	✓	✓	✓	✓
Methoxychlor	72-43-5	✓	✓	✓	✓
trans-Chlordane	5103-74-2	✓	✓	✓	✓

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $110 | CAD $127	Part Numbers: Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
8141 OP Pesticides, 200 µg/mL in Hexane/Acetone (90:10)	**AL0-101255**	**32277**	**SPM-824-1**	**48391**	**M-8140M-5X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Azinphos-methyl	86-50-0	✓	✓	✓	✓
Bolstar (Sulprofos)	35400-43-2	✓	✓		✓
Chlorpyrifos	2921-88-2	✓	✓	✓	✓
Coumaphos	56-72-4	✓	✓		✓
Demeton O & S	8065-48-3	✓	✓		✓
Diazinon	333-41-5	✓	✓		✓
Dichlorvos (DDVP)	62-73-7	✓	✓	✓	✓
Disulfoton	298-04-4	✓	✓	✓	✓
Ethoprop	13194-48-4	✓	✓	✓	✓
Fensulfothion	115-90-2	✓	✓		✓
Fenthion	55-38-9	✓	✓		✓
Merphos (Tributyl phosphortrithioite)	150-50-5	✓	✓		✓
Methyl Parathion	298-00-0	✓	✓	✓	✓
Mevinphos	7786-34-7	✓	✓		✓
Naled	300-76-5	✓	✓		✓
Phorate	298-02-2	✓	✓		✓
Ronnel (Fenchlorphos)	299-84-3	✓	✓		✓
Stirophos (Tetrachlorvinphos)	22248-79-9	✓	✓		✓
Tokuthion (Prothiofos)	34643-46-4	✓	✓	✓	✓
Trichloronate	327-98-0	✓	✓		✓

Phenova Recommended Alternative	Phenova USD $89 | CAD $102	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
8270 OP Pesticides Mix 2000 µg/mL in Methylene Chloride	**AL0-101256**	**32419**	**US-119**	**507202**	**M-8270-09-ASL**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Dimethoate	60-51-5	✓	✓	✓	✓
Disulfoton	298-04-4	✓	✓	✓	✓
Famphur	52-85-7	✓	✓	✓	✓
Methyl parathion	298-00-0	✓	✓	✓	✓
o,o,o-Triethyl phosphorothioate	126-68-1	✓	✓	✓	✓
Parathion	56-38-2	✓	✓	✓	✓
Phorate	298-02-2	✓	✓	✓	✓
Sulfotep	3689-24-5	✓	✓	✓	✓
Zinophos (Thionazine)	297-97-2	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $29 | CAD $33	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Pesticide Surrogate Mix 500 µg/mL in Acetone	**AL0-101257**	**32000**	**ISM-320-1**	**861284**	**CLP-032-R**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2,4,5,6-Tetrachloro-m-xylene	877-09-8	✓	✓	✓	✓
Decachlorobiphenyl	2051-24-3	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $29 | CAD $33	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Toxaphene 2000 µg/mL in Methanol	**AL0-101258**	**32015**	**EPA-1249**	**48700-U**	**P-093S-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Toxaphene	8001-35-2	✓	✓	✓	✓

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Phenova® Recommended Alternative	Part Numbers				
	Phenova® USD $25 | CAD $29	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
4,4'-Dibromobiphenyl 500 µg/mL in Ethyl Acetate	**AL0-101259**	**32092**	**PPS-420**	**48790-U**	**M-8111-IS-20X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4,4'-Dibromobiphenyl	92-86-4	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Technical Chlordane 1000 µg/mL in Methanol	**AL0-101260**	**32016**	**EPA-1086**	**40089**	**P-017S-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Chlordane (Technical)	57-74-9	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $29 | CAD $33	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2,4-Dichlorophenylacetic Acid 1000 µg/mL in Acetone	**AL0-101261**	**32439**	**PPS-167**	**49344-U**	**M-8150B-SS-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2,4-Dichlorophenylacetic acid (DCAA)	19719-28-9	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2,4,5,6-Tetrachloro-m-xylene 200 µg/mL in Acetone	**AL0-101263**	**32027**	**IST-440-1**	**48317**	**S-279**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2,4,5,6-Tetrachloro-m-xylene	877-09-8	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $29 | CAD $33	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Simazine 1000 µg/mL in Acetone	**AL0-101265**	**32236**	**NPM-107A**	**36588**	**P-085S-A-10X**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Simazine	122-34-9	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $29 | CAD $33	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Triazine Herbicides Mix 200 µg/mL in Acetone	**AL0-101266**	**31864**	**SPM-874-1**	**CRM48392**	**M-8141A-TH**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Atrazine	1912-24-9	✓	✓	✓	✓
Simazine	122-34-9	✓	✓	✓	✓

Additional Analytes			
Alachlor		Ametryn	
Cyanazine (Bladex)		Prometon	
Metolachlor		Prometryn	
Metribuzin		Propazine	
Prometryne		Terbutryn	

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $25 / CAD $29	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
		Part Numbers			
Pentachloronitrobenzene 5000 µg/mL in Acetone	AL0-101267	32091	PPS-133-1	40156	M-8081-IS

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
Pentachloronitrobenzene	82-68-8	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $25 / CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
1-Bromo-2-nitrobenzene 5000 µg/mL in Acetone	AL0-101268	32279	PPS-350-1		M-8141A-IS

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1-Bromo-2-nitrobenzene	577-19-5	✓	✓		✓

Phenova Recommended Alternative	Phenova USD $25 / CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
1-Bromo-2-nitrobenzene 1000 µg/mL in Acetone	AL0-101269	32279	PPS-350-1		M-8141A-IS

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
1-Bromo-2-nitrobenzene	577-19-5	✓	✓		✓

Phenova Recommended Alternative	Phenova USD $25 / CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
4,4'-Dibromooctofluorobiphenyl Standard, 250 µg/mL in Hexane	AL0-101270	32053		48791	M-8151-IS

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
4,4'-Dibromooctafluorrobiphenyl (DBOB)	10386-84-2	✓		✓	✓

Phenova Recommended Alternative	Phenova USD $25 / CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
Atrazine 1000 µg/mL in Acetone	AL0-101271	32208	EPA-1176A	31212	P-005S-A-10X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
Atrazine	1912-24-9	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $29 / CAD $33	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
4-Chloro-3-Nitrobenzotrifluoride 1000 µg/mL in Acetone	AL0-101272	32282	PPS-360-1	C60600-100G	M-8141A-SS-X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
4-Chloro-3-Nitrobenzotrifluoride	121-17-5	✓	✓	✓	✓

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Phenova® Recommended Alternative	Phenova® USD $55 | CAD $63	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
		Part Numbers			
Decacholorobiphenyl Standard 200 µg/mL in Acetone	**AL0-101274**	**32030**		**442537**	**CLP-032-R-01**
		Analytes			
Analytes	**CAS**	**Restek**	**Ultra Scientific**	**Sigma-Aldrich**	**AccuStandard**
Decachlorobiphenyl	2051-24-3	✓		✓	✓

Phenova Recommended Alternative	Phenova USD $60 | CAD $69	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
Chlorinated Acid Herbicides 100 µg/mL in Acetonitrile	**AL0-101288**	**32054**	**HBM-8150A-1**	**46861-U**	**M-8150A-PAK**
		Analytes			
Analytes	**CAS**	**Restek**	**Ultra Scientific**	**Sigma-Aldrich**	**AccuStandard**
2,4,5-Tt	93-76-5	✓	✓	✓	✓
2,4,5-TP (Silvex)	93-72-1	✓	✓	✓	✓
2,4-D	94-75-7	✓	✓		✓
2,4-DB	94-82-6	✓	✓	✓	
3,5-Dichlorobenzoic acid	51-36-5				
4-Nitrophenol	100-02-7	*			
Acifluorfen	50594-66-6	*			
Bentazon	25057-89-0	*			
Chloramben	133-90-4	*			
Dalapon	75-99-0	**	✓	✓	✓
DCPA diacid	2136-79-0	*			
Dicamba	1918-00-9	✓	✓	✓	✓
Dichloroprop	120-36-5	✓	✓	✓	✓
Dinoseb	88-85-7	✓	✓	✓	✓
Pentachlorophenol	87-86-5	*		✓	
Picloram	1918-02-1	*		✓	
		Additional Analytes			
			MCPA	MCPA	MCPA
			MCPP	MCPP	MCPP

*Found in Restek® Part Number 32061
**Found in Restek® Part Number 32056

Phenova Recommended Alternative	Phenova USD $35 | CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
MCPP & MCPA 20000 µg/mL in Acetonitrile	**AL0-101289**	**32059**	**PST-1180100A01**		**P153S-CN P-154S-CN**
		Analytes			
Analytes	**CAS**	**Restek**	**Ultra Scientific**	**Sigma-Aldrich**	**AccuStandard**
MCPA	94-74-6	✓	✓		✓ (P-153S-CN)
MCPP	7085-19-0	✓			✓ (P-154S-CN)

Phenova Recommended Alternative	Phenova USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
Pentachloronitrobenzene 100 µg/mL in Ethyl Acetate	**AL0-101290**	**32091**	**EPA-1151**	**40156**	**M-508.1-IS**
		Analytes			
Analytes	**CAS**	**Restek**	**Ultra Scientific**	**Sigma-Aldrich**	**AccuStandard**
Pentachloronitrobenzene	82-68-8	✓	✓	✓	✓

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PCBs

Phenova® Recommended Alternative	Phenova® USD $29 | CAD $33	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
		Part Numbers			
Pesticide Surrogate Mix 500 µg/mL in Acetone	**AL0-101257**	**32000**	**ISM-320-1**	**861284**	**CLP-032-R**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
2,4,5,6-Tetrachloro-m-xylene	877-09-8	✓	✓	✓	✓
Decachlorobiphenyl	2051-24-3	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $25 | CAD $29	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
2,4,5,6-Tetrachloro-m-xylene 200 µg/mL in Acetone	**AL0-101263**	**32027**	**IST-440-1**	**48317**	**S-279**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
2,4,5,6-Tetrachloro-m-xylene	877-09-8	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $35 | CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
Aroclor 1016/1260 Standard 100 µg/mL in Hexane	**AL0-101273**	**32039**			**20064**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
Aroclor 1016	12674-11-2	✓			✓
Aroclor 1260	11096-82-5	✓			✓

Phenova Recommended Alternative	Phenova USD $55 | CAD $63	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
Decacholorobiphenyl Standard 200 µg/mL in Acetone	**AL0-101274**	**32030**		**442537**	**CLP-032-R-01**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
Decachlorobiphenyl	2051-24-3	✓		✓	✓

Phenova Recommended Alternative	Phenova USD $30 | CAD $35	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
Aroclor 1016 Standard 100 µg/mL in Hexane	**AL0-101275**	**32006**	**PP-281**	**90123R**	**C-216S-H**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
Aroclor 1016	12674-11-2	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 | CAD $35	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Part Numbers			
Aroclor 1221 Standard 100 µg/mL in Hexane	**AL0-101276**	**32007**	**PP-291**	**90124R**	**C-221S-H**

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
		Analytes			
Aroclor 1221	11104-28-2	✓	✓	✓	✓

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $30 / CAD $35	Part Numbers: Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
Aroclor 1232 Standard 100 µg/mL in Hexane	AL0-101277	32008	PP-301	90125R	C-232S-H

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1232	11141-16-5	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 / CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1242 Standard 100 µg/mL in Hexane	AL0-101278	32009	PP-311	90126R	C-424S-H

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1242	53469-21-9	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 / CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1248 Standard 100 µg/mL in Hexane	AL0-101279	32010	PP-341	48054	C-248S-H

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1248	12672-29-6	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 / CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1254 Standard 100 µg/mL in Hexane	AL0-101280	32011	PP-351-1	90128R	C-254S-H

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1254	11097-69-1	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 / CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1260 Standard 100 µg/mL in Hexane	AL0-101281	32012	PP-361-1	90129R	C-260S-H

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1260	11096-82-5	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $35 / CAD $40	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1262 Standard 100 µg/mL in Hexane	AL0-101282	32409	PP-371-1	44810	C-262S-H

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1262	37324-23-5	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 / CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1268 Standard 100 µg/mL in Hexane	AL0-101283	32410	PP-381-1	502146	C-268S-H

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Aroclor 1268	11100-14-4	✓	✓	✓	✓

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Fuels (DROs and GROs)

Cross Reference to Other Suppliers

Phenova® Recommended Alternative	Phenova® USD $25 | CAD $29	Part Numbers: Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
4-Bromofluorobenzene 1000 µg/mL in P&T Methanol	AL0-101226	30026	STS-110N	48083	CLP-004-80X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4-Bromofluorobenzene	460-00-4	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $29 | CAD $33	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1-Chloro-4-fluorobenzene Standard, 2000 µg/mL in P&T Methanol	AL0-101230	30066	STS-570-1	48083	AK-101-IS-10X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1-Chloro-4-fluorobenzene	352-33-0	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $25 | CAD $29	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4-Bromofluorobenzene Standard 2000 µg/mL in P&T Methanol	AL0-101231	30026	STS-110N	48194	CLP-004-80X

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
4-Bromofluorobenzene	460-00-4	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $29 | CAD $33	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1-Chlorooctadecane 1000 µg/mL in Methylene Chloride	AL0-101247	31098	IST-470-1	47584-U	DRH-007-SS

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
1-Chlorooctadecane	3386-33-2	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 | CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
o-Terphenyl 10000 µg/mL in Methylene Chloride	AL0-101248	31097	IST-480-1	47580-U	DRH-006-SS

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
o-Terphenyl	84-15-1	✓	✓	✓	✓

Phenova Recommended Alternative	Phenova USD $30 | CAD $35	Part Numbers: Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
o-Terphenyl 2000 µg/mL in Methylene Chloride	AL0-101249	31097	IST-480-1	48169	DRH-006-SS

Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
o-Terphenyl	84-15-1	✓	✓	✓	✓

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Phenova® Recommended Alternative	Part Numbers				
	Phenova® USD $25 | CAD $29	Restek®	Ultra Scientific®	Sigma-Aldrich®	AccuStandard®
2-Fluorobiphenyl 1000 µg/mL in Methylene Chloride	**AL0-101250**	**31091**	**ATS-140-1**	**48722-U**	**M-625-09-10X**
		Analytes			
Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
2-Fluorobiphenyl	321-60-8	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $39 | CAD $45	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Unleaded Gasoline 50% Weathered 5000 µg/mL in P&T Methanol	**AL0-101284**	**30098**	**RGO-601**	**UST155**	**GA-W50-10X**
		Analytes			
Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Unleaded Gasoline Composite	8006-61-9	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $39 | CAD $45	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Unleaded Gasoline 50% Weathered 50000 µg/mL in P&T Methanol	**AL0-101285**	**30098**	**RGO-601**	**UST155**	**GA-W50-10X**
		Analytes			
Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Unleaded Gasoline Composite	8006-61-9	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $35 | CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Diesel Fuel # 2 Composite 5000 µg/mL in Methylene Chloride	**AL0-101286**	**31235**	**RGO-611**	**UST147**	**FU-009-D-40X**
		Analytes			
Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Diesel Fuel # 2 Composite	68334-30-5	✓	✓	✓	✓

Phenova Recommended Alternative	Part Numbers				
	Phenova USD $35 | CAD $40	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Diesel Fuel # 2 Composite 50000 µg/mL in Methylene Chloride	**AL0-101287**	**31235**	**RGO-611**	**UST147**	**FU-009-D-40X**
		Analytes			
Analytes	CAS	Restek	Ultra Scientific	Sigma-Aldrich	AccuStandard
Diesel Fuel # 2 Composite	68334-30-5	✓	✓	✓	✓

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Ordering Information

Calibration / Internal / Surrogate Standards

Volatiles

Part Number	Product Name	Description	Calibration Standards	Internal Standards	Surrogate Standards	US Price	CAD Price
AL0-101200	502.2 Calibration Standard	2000 µg/mL in P&T Methanol	✓			$ 90	$ 104
AL0-101201	502.2 Calibration Standard	200 µg/mL in P&T Methanol	✓			65	75
AL0-101202	8260 Appendix IX Additions Mix	2000 µg/mL in P&T Methanol	✓			39	45
AL0-101203	BTEX Standard	2000 µg/mL in P&T Methanol	✓			39	45
AL0-101204	BTEX plus MTBE Standard	2000 µg/mL in P&T Methanol	✓			30	35
AL0-101205	BTEX plus MTBE Standard	200 µg/mL in P&T Methanol	✓			30	35
AL0-101206	VOA Gases Standard	2000 µg/mL in P&T Methanol	✓			39	45
AL0-101207	VOA Gases Standard	200 µg/mL in P&T Methanol	✓			39	45
AL0-101208	California Oxygenates Standard	2000 µg/mL in P&T Methanol	✓			35	40
AL0-101209	501 Trihalomethanes Standard	2000 µg/mL in P&T Methanol	✓			39	45
AL0-101210	501 Trihalomethanes Standard	200 µg/mL in P&T Methanol	✓			29	33
AL0-101211	Ketones Standard	2000 µg/mL in P&T MeOH/H2O (90:10)	✓			35	40
AL0-101212	Ketones Standard	5000 µg/mL in P&T MeOH/H2O (90:10)	✓			35	40
AL0-101219	504.1 Calibration Standard	200 µg/mL in P&T Methanol	✓			29	33
AL0-101227	2-Chloroethyl vinyl ether	2000 µg/mL in P&T Methanol	✓			25	29
AL0-101228	Vinyl acetate**	2000 µg/mL in Water	✓			25	29
AL0-101213	8260 Internal Standard Mix 1	2500 µg/mL in P&T Methanol		✓		30	35
AL0-101215	8260 Internal Standard Mix 2	2500 µg/mL in P&T Methanol		✓		30	35
AL0-101217	524 Internal Standard Mix 1	2000 µg/mL in P&T Methanol		✓		35	40
AL0-101221	502.2 Internal Standard Mix	1000 µg/mL in P&T Methanol		✓		29	33
AL0-101229	Fluorobenzene	2000 µg/mL in P&T Methanol		✓	✓	25	29
AL0-101226	4-Bromofluorobenzene	1000 µg/mL in P&T Methanol		✓	✓	25	29
AL0-101231	4-Bromofluorobenzene	2000 µg/mL in P&T Methanol	✓	✓	✓	25	29
AL0-101214	8260 Surrogate Standard 1	2500 µg/mL in P&T Methanol			✓	30	35
AL0-101216	8260 Surrogate Standard Mix 2	2500 µg/mL in P&T Methanol			✓	35	40
AL0-101218	524 Surrogate Standard Mix 2	2000 µg/mL in P&T Methanol			✓	30	35
AL0-101220	524 Surrogate Standard 1	2000 µg/mL in P&T Methanol			✓	29	33
AL0-101225	1-Chloro-2-fluorobenzene Standard	1000 µg/mL in P&T Methanol		✓	✓	25	29

** Due to the instability of Vinyl Acetate, this standard is manufactured and shipped on demand and offered as an Analytical Reference Standard under Phenova's ISO Guide 34 Reference Material Provider accreditation procedures.

SemiVolatiles (BNAs and PAHs)

Part Number	Product Name	Description	Calibration Standards	Internal Standards	Surrogate Standards	US Price	CAD Price
AL0-101232	8270 Calibration Standard	1000 µg/mL in Methylene Chloride	✓			$ 115	$ 132
AL0-101234	8270 Phenols Standard	2000 µg/mL in Methylene Chloride	✓			55	63
AL0-101235	Appendix IX Mix 1	2000 µg/mL in Methylene Chloride	✓			40	46
AL0-101237	Appendix IX Mix 2	2000 µg/mL in Methylene Chloride	✓			55	63
AL0-101243	8270 Benzidines Standard	2000 µg/mL in Methylene Chloride	✓			35	40
AL0-101244	Benzidines Standard	2000 µg/mL in Methylene Chloride	✓			30	35
AL0-101245	N-Nitrosodiphenylamine	1000 µg/mL in Methylene Chloride	✓			25	29
AL0-101246	Benzoic Acid	2000 µg/mL in Methylene Chloride	✓			25	29
AL0-101233	PAH Plus Methylnaphthalenes	2000 µg/mL in Methylene Chloride	✓			85	98
AL0-101236	PAH Standard	2000 µg/mL in Methylene Chloride	✓			85	98
AL0-101238	SV Internal Standard Mix	4000 µg/mL in Methylene Chloride		✓		85	98
AL0-101239	SV B/N Surrogate Mix	2000 µg/mL in Methylene Chloride			✓	35	40
AL0-101240	SV B/N Surrogate Mix	5000 µg/mL in Methylene Chloride			✓	35	40
AL0-101241	SV Acids Surrogate Mix	2000 µg/mL in Methanol			✓	35	40
AL0-101242	SV Acids Surrogate Mix	5000 µg/mL in Methanol			✓	35	40
AL0-101251	SV BNA Surrogate Mix	2000 µg/mL in Methylene Chloride			✓	60	69
AL0-101252	SV BNA Surrogate Mix	4000 µg/mL in Methylene Chloride			✓	60	69
AL0-101291	GC/MS Tuning Mix	1000 µg/mL in Methylene Chloride	✓			35	40

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Calibration / Internal / Surrogate Standards

Pesticides and Herbicides

Part Number	Product Name	Description	Calibration Standards	Internal Standards	Surrogate Standards	US Price	CAD Price
AL0-101253	8081 Chlorinated Pesticides	1000 µg/mL in Hexane/Toluene	✓			$ 75	$ 86
AL0-101254	Chlorinated Pesticides Standard	2000 µg/mL in Hexane/Toluene	✓			75	86
AL0-101258	Toxaphene	2000 µg/mL in Methanol	✓			29	33
AL0-101260	Technical Chlordane	1000 µg/mL in Methanol	✓			25	29
AL0-101255	8141 OP Pesticides	200 µg/mL in Hexane/Acetone (90:10)	✓			110	127
AL0-101256	8270 OP Pesticides Mix	2000 µg/mL in Methylene Chloride	✓			89	102
AL0-101290	Pentachloronitrobenzene	100 µg/mL in Ethyl Acetate		✓		25	29
AL0-101259	4,4'-Dibromobiphenyl	500 µg/mL in Ethyl Acetate			✓	25	29
AL0-101267	Pentachloronitrobenzene	5000 µg/mL in Acetone		✓		25	29
AL0-101268	1-Bromo-2-nitrobenzene	5000 µg/mL in Acetone		✓		25	29
AL0-101269	1-Bromo-2-nitrobenzene	1000 µg/mL in Acetone		✓		25	29
AL0-101272	4-Chloro-3-Nitrobenzotrifluoride	1000 µg/mL in Acetone		✓	✓	29	33
AL0-101257	Pesticide Surrogate Mix	500 µg/mL in Acetone			✓	29	33
AL0-101263	2,4,5,6-Tetrachloro-m-xylene	200 µg/mL in Acetone		✓	✓	25	29
AL0-101274	Decacholorobiphenyl Standard	200 µg/mL in Acetone		✓	✓	55	63
AL0-101288	Chlorinated Acid Herbicides	100 µg/mL in Acetonitrile	✓			60	69
AL0-101289	MCPP & MCPA	20000 µg/mL in Acetonitrile	✓			35	40
AL0-101265	Simazine	1000 µg/mL in Acetone	✓			29	33
AL0-101271	Atrazine	1000 µg/mL in Acetone	✓			25	29
AL0-101266	Triazine Herbicides Mix	200 µg/mL in Acetone	✓			29	33
AL0-101270	4,4'-Dibromooctofluorobiphenyl	250 µg/mL in Hexane		✓		25	29
AL0-101261	2,4-Dichlorophenylacetic Acid	1000 µg/mL in Acetone			✓	29	33

Polychlorinated Biphenyls (PCBs)

Part Number	Product Name	Description	Calibration Standards	Internal Standards	Surrogate Standards	US Price	CAD Price
AL0-101273	Aroclor 1016/1260 Standard	100 µg/mL in Hexane	✓			$ 35	40
AL0-101275	Aroclor 1016 Standard	100 µg/mL in Hexane	✓			30	35
AL0-101276	Aroclor 1221 Standard	100 µg/mL in Hexane	✓			30	35
AL0-101277	Aroclor 1232 Standard	100 µg/mL in Hexane	✓			30	35
AL0-101278	Aroclor 1242 Standard	100 µg/mL in Hexane	✓			30	35
AL0-101279	Aroclor 1248 Standard	100 µg/mL in Hexane	✓			30	35
AL0-101280	Aroclor 1254 Standard	100 µg/mL in Hexane	✓			30	35
AL0-101281	Aroclor 1260 Standard	100 µg/mL in Hexane	✓			30	35
AL0-101282	Aroclor 1262 Standard	100 µg/mL in Hexane	✓			35	40
AL0-101283	Aroclor 1268 Standard	100 µg/mL in Hexane	✓			30	35
AL0-101257	Pesticide Surrogate Mix	500 µg/mL in Acetone			✓	29	33
AL0-101263	2,4,5,6-Tetrachloro-m-xylene	200 µg/mL in Acetone		✓	✓	25	29
AL0-101274	Decacholorobiphenyl Standard	200 µg/mL in Acetone		✓	✓	55	63

Fuels (DRO and GRO)

Part Number	Product Name	Description	Calibration Standards	Internal Standards	Surrogate Standards	US Price	CAD Price
AL0-101284	Unleaded Gasoline 50% Weathered	5000 µg/mL in P&T Methanol	✓			$ 39	45
AL0-101285	Unleaded Gasoline 50% Weathered	50000 µg/mL in P&T Methanol	✓			39	45
AL0-101230	1-Chloro-4-fluorobenzene Standard	2000 µg/mL in P&T Methanol		✓		29	33
AL0-101226	4-Bromofluorobenzene Standard	1000 µg/mL in P&T Methanol		✓	✓	25	29
AL0-101231	4-Bromofluorobenzene Standard	2000 µg/mL in P&T Methanol		✓	✓	25	29
AL0-101286	Diesel Fuel # 2 Composite	5000 µg/mL in Methylene Chloride	✓			35	40
AL0-101287	Diesel Fuel # 2 Composite	50000 µg/mL in Methylene Chloride	✓			35	40
AL0-101247	1-Chlorooctadecane	1000 µg/mL in Methylene Chloride		✓	✓	29	33
AL0-101248	o-Terphenyl	10000 µg/mL in Methylene Chloride		✓	✓	30	35
AL0-101249	o-Terphenyl	2000 µg/mL in Methylene Chloride		✓	✓	30	35
AL0-101250	2-Fluorobiphenyl	1000 µg/mL in Methylene Chloride			✓	25	29

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Calibration, Internal, and Surrogate Standards for Environmental Analysis

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ISO Guide 34:2009 | ISO/IEC 17025 | ISO/IEC 17043 | TNI EL-V3-2009

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