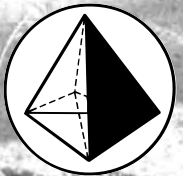


Standards for TPH Analysis



AccuStandard[®], Inc.

Calibrate on AccuStandard for TPH Analysis...

- Offers the Largest Library of Pattern Identification Fuel Standards providing **easy confirmation** of subtle fuel differences.
- First company to offer ready-to-inject calibration curves, which **eliminates standard preparation time, insuring precision & accuracy.**
- **Convenient Sets** for Specific Fuel applications.
- Weathered Fuel Sets help **solve the problem** of identification and estimation of total gross hydrocarbon concentrations in a sample.
- **Speciation standards** are available for volatile Aromatic, Aliphatic and extractable PAH analysis involving Gasoline, Diesel and Residual Range Organics (GRO, DRO & RRO).
- **Bulk Packaging** to meet specific laboratory sample demands.
- **New PT sample formulations** for laboratory TPH certification as well as for meeting new regulatory requirements.
- **Specialists** in State-Specific Standards for UST/LUFT/LUST Methods covering:

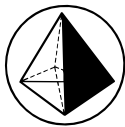
Alaska	California	Florida
Mississippi	Tennessee	Massachusetts
Pennsylvania	Texas	Washington
Wisconsin		

The only manufacturer with an Aliphatic Hydrocarbon Window Defining Standard containing even and odd Alkanes that has multi-state applications (Cat. # DRH-008S). **One Standard Does It All!**

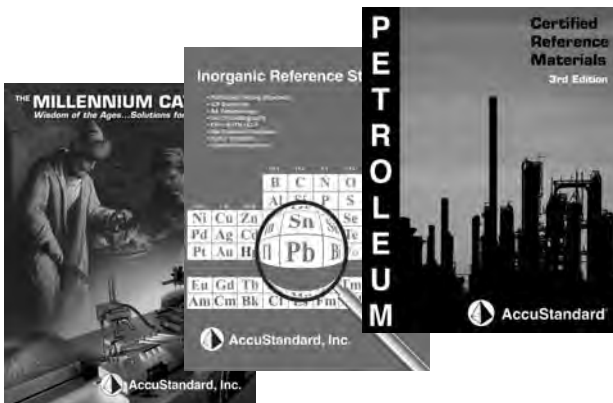
Calibrate on US!

As do many Government, State, Commercial labs, and Instrument Manufacturers who trust AccuStandard's TPH Calibration Standards.

US Navy	California	Agilent	Severn Trent
US EPA	Maryland	Varian	Chevron
US Coast Guard	Florida	Test America	Ceimic



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Cover TPH Photo (Tank removal)
Courtesy of Connecticut DEP

Phone:	203-786-5290	FAX:	203-786-5287	E-Mail:	usa@accustandard.com
Toll Free:	800-442-5290	Toll Free:	877-786-5287	Web Site:	www.accustandard.com


Calibrate on Us for TPH Identification

Analytical chemists need to identify Petrochemical spills. They also have to quantify the gross hydrocarbon concentration. This decision-making process becomes even more challenging if the Petrochemical product has weathered in the environment or if multiple petrochemical products have spilled or leaked at the sampling site.


AccuStandard has prepared a select group of representative Petrochemical products (Cat. # **TPH-SET**) typically found when leaking or spill assessment Phase 1, 2, or 3 site investigation is conducted.

The TPH Technical Reference Guide (Cat. # **BOOK-TPH**) allows the chemist to identify the Petrochemical product against reference chromatography for various related Petroleum products found during UST/LUFT/LUST site investigation. The Petrochemical reference standards (Cat. # **TPH-SET**) presented in the TPH book were analyzed by an optimized set of operating conditions to allow good pattern recognition in under a half hour and to establish a defined C8 to C40 Alkane hydrocarbon window.

TOTAL PETROLEUM HYDROCARBON



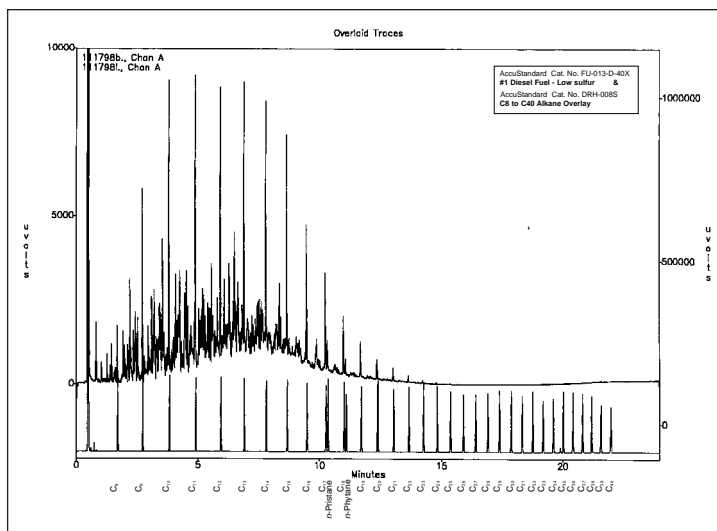
PATTERN RECOGNITION STANDARDS

 **AccuStandard, Inc.**

To Order TPH Book
Use Cat. # **BOOK-TPH** \$ 35

Use of the reference guide in conjunction with the TPH pattern Identification Standards (Cat. # **TPH-SET**) optimizes identification of laboratory samples. In addition, the chromatography in the book shows each fuel pattern and an overlay to our Multi State Window Defining Standard (Cat. # **DRH-008S**).

The **DRH-008S** "Window Defining Standard" is used to establish the beginning and ending points in the Petrochemical chromatogram.



Based on using the **DRH-008S** standard containing the straight chain Alkanes from C8 to C40, a window can be established where the Petrochemical product would be present in the chromatogram. This defined Alkane window is useful to quickly identify weathered or multiple Petrochemical products by the hydrocarbon window they encompass.

Hydrocarbon Window Defining Standard

DRH-008S \$ 65 / 1 x 1 mL
DRH-008S-PAK **SAVE 20%** \$ 260 / 5 x 1 mL
500 µg/mL each in CS₂:CH₂Cl₂ (3:1) 35 comps.

Octane	Nonadecane	Triacontane
Nonane	Phytane	<i>n</i> -Hentriacontane
Decane	Eicosane	Dotriacontane
Undecane	Heneicosane	Tritriacontane
Dodecane	Docosane	Tetracontane
Tridecane	Tricosane	Pentatriacontane
Tetradecane	Tetracosane	Hexatriacontane
Pentadecane	Pentacosane	Heptatriacontane
Hexadecane	Hexacosane	Octatriacontane
Heptadecane	Heptacosane	Nonatriacontane
Octadecane	Octacosane	Tetracontane
Pristane	Nonacosane	

Single Source Contamination

Defining a specific Petrochemical pattern to a known Alkane hydrocarbon range allows the chemist to calculate a Gross Hydrocarbon concentration using the Petrochemical calibration standard that is the closest match.

The hydrocarbon range defines the starting and end points used to establish an area response or actual response factor for each Petrochemical calibration standard. Quantification of the sample by other laboratories using the same standardized Alkane defined window should yield similar results.

Multiple Source or Weathered Contamination

This technique is very useful for weathered or mixed fuel patterns (gasoline/diesel) where a gross hydrocarbon concentration is being established for each of the fuels present in the soil or water sample. Better inter-laboratory reproducibility can be achieved by defining the window segment for each fuel in a mixed fuel sample (gasoline portion/diesel portion) and quantifying the defined segment with that same representative portion from the actual Petrochemical calibration standard.

New PT Samples Gasoline & Diesel

The new Gasoline PT sample allows laboratories to test for gasoline TPH. This sample can also be used to test for the BTEX concentrations so the lab can use this product for method 602, 8020, 8021 and 8015 modified. Reduce analytical bias by using the recommended calibration standard listed with the PT sample when conducting PT studies. AccuStandard is the one ISO 9001 standard manufacturer capable of supplying not only the PT sample(s), but also a wide variety of calibration standards to meet your specific TPH requirement.

PT Samples

Gasoline with BTEX		Proficiency Test Sample		#2 Diesel		Proficiency Test Sample	
OPE-CGAS-001-AS		Formal Studies	\$ 70 / 2 mL	OPE-DIESEL-001-AS		Formal Studies	\$ 70 / 2 mL
OPE-CGAS-001-AT		Quick Turnaround	\$ 70 / 2 mL	OPE-DIESEL-001-AT		Quick Turnaround	\$ 70 / 2 mL
OPE-CGAS-001-AV		QA/QC	\$ 70 / 2 mL	OPE-DIESEL-001-AV		QA/QC	\$ 70 / 2 mL
Sample conc. after prep 0.1-5 mg/mL				Sample conc. after prep 0.1-5 mg/mL			
Contains 5 analytes listed below				Contains analyte listed below			
Gasoline		Ethyl benzene		Diesel			
Benzene		Total Xylene					
Toluene							
Suggested Calibration Standards				Suggested Calibration Standard			
GA-001-40X \$ 20 / 1 mL				FU-009-40X \$ 20 / 1 mL			
Regular Unleaded Gasoline @ 20 mg/mL in MeOH				#2 Diesel @ 20 mg/mL in MeOH			
M-602-GAS-10X \$ 30 / 1 mL							
Purgeable Aromatics (BTEX) with Oxygenate - Gasoline ID							

Method 413.2 & 418.1 TPH Analysis by IR

Oil, Grease & Petroleum Hydrocarbon Concentrates Mix		M-418-CON	
% by volume		\$ 35 / 1 x 1 mL	3 comps.
Chlorobenzene	(25.0)		
Isooctane	(37.5)		
Hexadecane	(37.5)		
Oil, Grease and Petroleum Hydrocarbon Working Standard		M-418	
M-418-PAK		\$ 30 / 1 x 1 mL	
Total 4.15 mg/mL in Freon 113, (Parts by volume)		SAVE 20% \$ 120 / 5 x 1 mL	3 comps.
Chlorobenzene	(10.0)		
n-Hexadecane	(15.0)		
Isooctane	(15.0)		

WP-PT Oil, Grease & TPH

IPE-OILG-001-AS *		Proficiency Test Sample	
IPE-OILG-001-AT *		Formal Studies	\$ 30 / 5 mL
IPE-OILG-001-AV *		Quick Turnaround	\$ 30 / 5 mL
		QA/QC	\$ 30 / 5 mL
Sample conc. after prep			
Contains 2 analytes listed below			
Analyte List	Sample range	* Designed for CA / NELAC	
Total Oil & Grease †	5-100 mg/L		
TPH	5-100 mg/L		
Technical Note			
To be used by gravimetric oil and grease methods. In addition, this PT sample can now be used for TPH analysis by gravimetric methods including the EPA method 1664. The sample contains real world material typically present in the environment.			

Method 1664 Oil, Grease & TPH

M-1664-5ML	\$ 15 / 1 x 5 mL	M-1664-20ML	\$ 25 / 1 x 20 mL
M-1664-5ML-PAK	SAVE 20% \$ 60 / 5 x 5 mL	M-1664-20ML-PAK	SAVE 20% \$ 100 / 5 x 20 mL
4.0 mg/mL each in Acetone	2 comps.	4.0 mg/mL each in Acetone	2 comps.
Hexadecane		Hexadecane	
Stearic acid		Stearic acid	
Technical Note			
AccuStandard's Precision and Recovery (PAR) Spiking Solution was developed for the new Method 1664. This performance based method was developed to replace gravimetric procedures which had Freon-113 as the extraction solvent. Each standard is packaged in a flame sealed ampule conveniently sized for quality control of the analytical batch.			



Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code 200389-0

TPH Pattern Recognition Standards

TPH-SET

\$ 535 / 33 x 1 mL

The set contains the following fuel products @ 20 mg/mL in Methylene chloride

Motor Fuels & Lubricating Oils

Regular unleaded gasoline
Regular leaded gasoline
Premium gasoline
RFA Gasoline (oxygenate free)
#2 Diesel (conventional)
#1 Diesel (low sulfur)
#2 Diesel (extra-low sulfur)
Artic Diesel
SAE 30 W motor oil
SAE 40 W motor oil
SAE 50 W motor oil

Aviation Fuels & Oils

Aviation(gas) Grade 100 LL
JP-4 Fuel
JP-5 Fuel
JP-7 Fuel
JP-8 Fuel
JP-10 Fuel (Cruise Missile)
JP-TS
Jet Fuel (type 1)
Turbine (Jet A) Fuel
Hydraulic oil

Heating Fuel Oils

#1 Fuel Oil
#2 Fuel Oil
#3 Fuel Oil
#4 Fuel Oil
#5 Fuel Oil
#6 Fuel Oil
Kerosene

Household Industrial Solvents

Lacquer thinner
Mineral spirits
Naphtha
Turpentine
Stoddard

Purgeable Aromatics with Oxygenate - Gasoline ID

M-602-GAS-10X

\$ 30 / 1 x 1 mL

2.0 mg/mL each in MeOH

11 comps.

Benzene	Toluene
Chlorobenzene	o-Xylene
1,2-Dichlorobenzene	p-Xylene
1,3-Dichlorobenzene	m-Xylene
1,4-Dichlorobenzene	MtBE
Ethylbenzene	

Certified BTEX

Certified BTEX in Unleaded Gasoline (Single Source)

GA-001-20X-BTEX

\$ 55 / 1 x 1 mL

10.0 mg/mL in MeOH

Gasoline - Regular, unleaded

Certified BTEX in Gasoline Composite Mix (Multi Source)

AK-101.0-GCS-BTEX

\$ 55 / 1 x 1 mL

5 mg/mL total in MeOH

3 comps.

Gasoline - Premium (1.66 mg/mL)
Gasoline - Regular, leaded (1.67 mg/mL)
Gasoline - Regular, unleaded (1.67 mg/mL)

Technical Note

Simultaneous BTEX / Gasoline QA/QC

AccuStandard's QA/QC department has certified the benzene, toluene, ethyl benzene and xylene concentrations in our unleaded gasoline standard (GA-001-20X-BTEX & in AK-101.0-GCS-BTEX). Use of either standard allows the analytical chemist with a single injection to verify that QA/QC requirements are being met for the BTEX analytes as well as for the gasoline.

Since formulating the standards for the Alaskan method and due to numerous laboratory requests, we have added a new multi-source certified BTEX in gasoline composite mix (AK-101.0-GCS-BTEX). The BTEX values for this multi-source calibration standard have been determined through in-house analysis against a BTEX multi-level calibration curve, and are listed on the Certificate.

Oxygenate PT Samples

With MtBE contamination problems in drinking water, numerous states are now requiring certification for Oxygenate monitoring. Join AccuStandard's next study for Oxygenate analysis. Our timely PT schedule easily allows your lab to be proactive in new regulatory requirements. The analytes in the standard and the PT sample have been drawn from the California list of known prevalent oxygenates in gasoline. These new Oxygenate standards allow your Lab to:

- Expand testing capabilities
- Generate new testing revenue
- Eliminate standard preparation
- Easily combine with other AccuStandard Volatile standards.

Oxygenate Gasoline Additives

OGAD-001

\$ 30 / 1 x 1 mL

OGAD-001-PAK

SAVE 20% \$ 120 / 5 x 1 mL

At stated conc. in MeOH

5 comps.

MtBE	(2000 µg/mL)	TAME	(2000 µg/mL)
ETBE	(2000 µg/mL)	t-Butanol	(10000 µg/mL)
Isopropyl ether	(2000 µg/mL)		

WS-PT Oxygenates

OPE-OXY-001-AS

Formal Studies \$ 45 / 2 mL

OPE-OXY-001-AT

Quick Turn Around \$ 45 / 2 mL

OPE-OXY-001-AV

QA/QC \$ 45 / 2 mL

Sample conc. after prep 5.0-50 µg/L

Contains 4 analytes listed below

ETBE	MTBE
Diisopropylether	TAME

Gasoline/Diesel Composite Standards

AccuStandard continues to offer ready-to-use working level standards to meet mandatory TPH methods. These new Multi-Fuel calibration standards and curve make it easier for the chemist to identify mixed fuel sources and to estimate the actual concentration of both the gasoline and diesel portions. Contact us for new Texas method 1005 & 1006 standards under development.

Gasoline/Diesel Calibration Solutions

DRH-TX-002-D-40X

\$ 25 / 1 x 1 mL

DRH-TX-002-D-40X-PAK

SAVE 20% \$ 100 / 5 x 1 mL

20,000 µg/mL each in CH₂Cl₂

2 comps.

Gasoline - Regular, unleaded
#2 Diesel Fuel

DRH-TX-002-10X

\$ 25 / 1 x 1 mL

DRH-TX-002-10X-PAK

SAVE 20% \$ 100 / 5 x 1 mL

5000 µg/mL each in MeOH

2 comps.

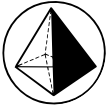
Gasoline - Regular, unleaded
#2 Diesel Fuel

DRH-TX-002-D-SET

\$ 75 / 8 x 1 mL

Each mix contains:
Regular, Unleaded Gasoline & #2 Diesel Fuel

Cat. #	Conc.	Solvent
DRH-TX-002-D-0.01X	5 µg/mL	CH ₂ Cl ₂
DRH-TX-002-D-0.04X	20 µg/mL	CH ₂ Cl ₂
DRH-TX-002-D-0.1X	50 µg/mL	CH ₂ Cl ₂
DRH-TX-002-D-0.2X	100 µg/mL	CH ₂ Cl ₂
DRH-TX-002-D-0.4X	200 µg/mL	CH ₂ Cl ₂
DRH-TX-002-D-1X	500 µg/mL	CH ₂ Cl ₂
DRH-TX-002-D-2X	1000 µg/mL	CH ₂ Cl ₂
DRH-TX-002-D-10X	5000 µg/mL	CH ₂ Cl ₂



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TPH Analysis

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