

Petroleum Reagents & Standards

GFS
CHEMICALS®



Analytical Reagents & Standards



GFS Chemicals offers a wide product portfolio of proprietary chemicals available in small batch to bulk quantities. GFS Chemicals manufactures and distributes over 8000 products including a full range of ppt/ppb trace-grade acids, UV-vis standards, AA/ICP standards, Karl Fischer reagents and standards, turbidity standards, pH buffers, conductivity standards, OHR, GC/HPLC solvents, inorganic salts, and other high quality reference materials for your QA/QC laboratory.

In addition, GFS Chemicals' capability to produce specialty alkynes and olefins, trace metal salts and solutions, low moisture and anhydrous salts, and specialty rare earth salts and solutions, makes GFS Chemicals a preferred partner for organizations across an array of industries.

Our offering includes

- Trace metal acids, ppt and ppb grades
- Trace metal salts
- UV-vis standards
- AA/ICP standards
- pH buffers
- Turbidity standards for water analysis
- APHA standards
- Conductivity standards
- KF Reagents

For a complete offering of all our products, visit [gfschemicals.com](https://www.gfschemicals.com)

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Karl Fischer Reagents & Standards

GFS Chemicals manufactures the Watermark® Karl Fischer product line. We have one of the largest selections of Karl Fischer reagents and standards in the industry, and the technical expertise to meet your project's needs.



ITEM #	PRODUCT NAME
One-Component Titrant	
1600	5 mg/mL 1-COMPONENT, WATERMARK KARL FISCHER TITRANT
1601	2 mg/mL 1-COMPONENT, WATERMARK KARL FISCHER TITRANT
1884	1 mg/mL 1-COMPONENT, WATERMARK KARL FISCHER REAGENT
1893	5 mg/mL 1-COMPONENT, NON-HAZ, WATERMARK KARL FISCHER TITRANT
1894	2 mg/mL 1-COMPONENT, NON-HAZ, WATERMARK KARL FISCHER TITRANT
1620	5 mg/mL TITRANT, PYRIDINE BASED, 1-COMPONENT
Two-Component Titrant	
1616	5 mg/mL 2-COMPONENT TITRANT, IN METHANOL, WATERMARK KARL FISCHER REAGENT
1604	5 mg/mL, 2-COMPONENT TITRANT, STABLE, NON-HYGROSCOPIC WATERMARK KARL FISCHER REAGENT
1603	2 mg/mL, 2-COMPONENT TITRANT, STABLE, NON-HYGROSCOPIC WATERMARK KARL FISCHER REAGENT
1602	1 mg/mL, 2-COMPONENT TITRANT, STABLE, NON-HYGROSCOPIC WATERMARK KARL FISCHER
1970	0.5 mg/mL, 2-COMPONENT TITRANT, STABLE, NON-HYGROSCOPIC WATERMARK KARL FISCHER REAGENT
One-Component Solvent	
1885	METHANOL PRIME, WATERMARK KARL FISCHER SOLVENT, FOR FASTER TITRATIONS
3569	METHYL ALCOHOL, ANHYDROUS, WATERMARK KARL FISCHER REAGENT
2978	SOLVENT FOR OILS, ONE-COMPONENT, WATERMARK KARL FISCHER REAGENT
5322	ALDEHYDES AND KETONES SOLVENT, 1-COMPONENT, WATERMARK KARL FISCHER REAGENT



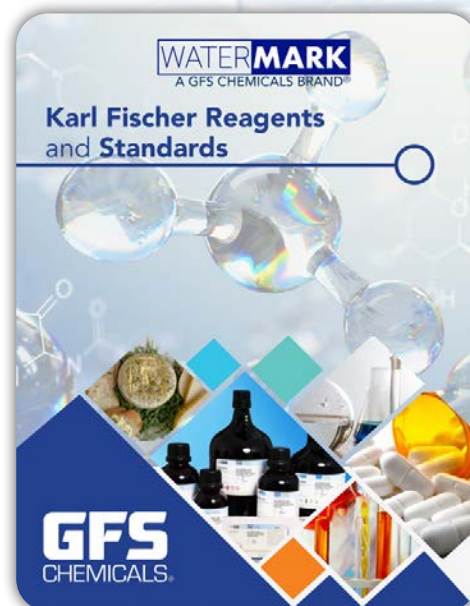
From volumetric and coulometric Karl Fischer reagents to certified water standards, we have the products you need in stock and ready to ship.

Pyridine based 0.5 mg/mL titrant still manufactured for special applications.



ITEM #	PRODUCT NAME
Two-Component Solvent	
1609	METHANOL-FREE, WATERMARK KARL FISCHER SOLVENT, 1 & 2 COMPONENT SUITABLE FOR ALDEHYDES & KETONES
1610	GENERAL PURPOSE, WATERMARK KARL FISCHER SOLVENT, 1 & 2 COMPONENT SUITABLE
2991	SOLVENT FOR OILS, TWO-COMPONENT, WATERMARK KARL FISCHER REAGENT
Buffering Reagents	
1615	BUFFER SOLUTION, WATERMARK KARL FISCHER REAGENT
1973	IMIDAZOLE, ACS REAGENT
673	BENZOIC ACID, ACS REAGENT
799	SALICYLIC ACID, ACS REAGENT
2411	PROPIONIC ACID, ACS REAGENT
Coulometric Analytes	
1671	VESSEL SOLUTION, DIAPHRAGMLESS, CHLOROFORM-FREE, WATERMARK COULOMETRIC KARL FISCHER REAGENT
1612	ANOLYTE VESSEL SOLUTION, PYRIDINE-FREE, WATERMARK COULOMETRIC KARL FISCHER REAGENT
1619	ANOLYTE VESSEL SOLUTION, FOR KETONES AND ALDEHYDES, WATERMARK COULOMETRIC KARL FISCHER REAGENT
1607	ANOLYTE VESSEL SOLUTION, BIODIESEL, NON-POLAR AND OIL, WATERMARK COULOMETRIC KARL FISCHER REAGENT
5202	ANOLYTE VESSEL SOLUTION, FOR OILS, WATERMARK COULOMETRIC KARL FISCHER REAGENT
1889	VESSEL SOLUTION FOR OVEN APPLICATIONS, WATERMARK COULOMETRIC KARL FISCHER REAGENT
5605	REAGENT KIT FOR OILS, WATERMARK COULOMETRIC KARL FISCHER REAGENT 8 X 100 mL OF 5202 AND 8 X 5 mL 2321 IN SEALED AMPOULES
Coulometric Catholytes	
2321	GENERATOR SOLUTION, UNIVERSAL, WATERMARK COULOMETRIC KARL FISCHER REAGENT
1613	GENERATOR SOLUTION, WATERMARK COULOMETRIC KARL FISCHER REAGENT

GFS Chemicals offers both pyridine and pyridine-free solutions. Our Watermark Karl Fischer coulometric reagents have a water capacity over 1000 mgper100mL charge.



DOWNLOAD THE BROCHURE NOW!



Generator Solution, Pyridine-free, Watermark Coulometric Karl Fischer Reagent. available in double ended ampoules for safer use, and bottles for high capacity labs.

ITEM #	PRODUCT NAME
Water Standards	
2303	10.0 mg/g, WATERMARK KF WATER STANDARD, 10,000 ppm
2302	1.0 mg/g, WATERMARK KF WATER STANDARD, 1,000 ppm
3493	0.50 mg/g, WATERMARK KF WATER STANDARD, 500 ppm
5692	0.20 mg/g, WATERMARK KF WATER STANDARD, 200 ppm
2301	0.10 mg/g, WATERMARK KF WATER STANDARD, 100 ppm
2311	0.05 mg/g, WATERMARK KF WATER STANDARD, 50 ppm
1618	1.0 mg/mL, WATERMARK KF WATER STANDARD
2385	POTASSIUM CITRATE, WATERMARK KF WATER STANDARD
805	SODIUM TARTRATE, DIHYDRATE, ACS REAGENT, WATER 15.61 - 15.71 %
Desiccants	
1986	SILICA GEL, w/30% INDICATING BEADS, 3-10 MESH
963	MOLECULAR SIEVES, 3Å, 8-12 MESH BEADS
2709	MOLECULAR SIEVES, 3Å, 4-8 MESH BEADS

WATER STANDARDS FOR KARL FISCHER TITRATORS

Community titrator? Questionable sample? You can use water standards to identify a problem with your sample or titrator. Start with fresh vessel solution and inject a water standard as a sample. Next, analyze your products. Finally, inject a water standard as a sample again. There should be a correlation between the two water standard values. If there isn't, one of your samples may be causing an interference, or there may be a problem with the titrator.

GFS Chemicals is a primary manufacturer of a broad range of reference materials, all made in our Columbus, OH facility. The liquid standards are delivered in ten 5mL single use ampoules with a 5-year shelf life. Watermark® water standards are methanol free and can be used in all KF applications.

LIQUID STANDARDS		Part #	Part #		
By Weight		By Volume			
10 mg/g	1.00%	10,000 ppm	99881	10 mg/mL	99888
5 mg/g	0.50%	5,000 ppm	99922	5 mg/mL	99253
1 mg/g	0.10%	1,000 ppm	99862	1 mg/mL	99253
0.5 mg/g	0.05%	500 ppm	99862	0.1 mg/mL	99893
0.1 mg/g	0.01%	100 ppm	99842		
0.05 mg/g	0.005%	50 ppm	99931		

SOLID STANDARDS		Part #
Sodium Tartrate, 15.61% to 15.71%	100 g	69356
Potassium Citrate, 5.5% to 5.6%	10 g	99571
Potassium Citrate, 5.5% to 5.6%	10x10 g	99572

ADVANTAGES OF WATERMARK® KF STANDARDS

- Tested under an ISO/IEC 17025 accredited Management System.
- NIST Traceable to SRM 2890.
- Single-Use ampoules sealed under argon.
- Certificate of Analysis included

Liquid standards are the easiest & most accurate way to introduce a water standard into the titration vessel. Many titrators have built-in methods to make titrant standardization simple for you.

WATERMARK
GFS CHEMICALS BRAND

GFS CHEMICALS

For more info contact service@gfschemicals.com or call 800.858.9682

155 Hidden Ravines Dr | Powell, Ohio 43065
www.gfschemicals.com

For more information about water standards you can visit our webpage and download our **water standards flyer**.

SOLVENTS

GFS' products start with high quality raw materials and are quality control tested throughout the purification process to ensure the first bottle and the last bottle are the same. Products are submicron filtered to ensure low baseline noise and eliminate potential pump blockages.

ITEM #	PRODUCT NAME
HPLC/GC Veritas Ultimate	
5562	ACETONE, VERITAS ULTIMATE
5563	ACETONITRILE, LC-MS VERITAS ULTIMATE
3778	CHLOROFORM, VERITAS ULTIMATE, ALCOHOL STABILIZED
1234	CHLOROFORM, VERITAS ULTIMATE, HYDROCARBON STABILIZED

THERE'S A SAFER WAY TO DETERMINE WATER IN CRUDE OIL.



WATERMARK® Crude Oil Reagent Kits include double ended ampoules containing the KF generator solution - **THE ULTIMATE** in safety & convenience. Packed under vacuum, the generator solution doesn't come out of the ampoule until the second end is snipped.

gfschemicals.com/karl-fischer-reagents

- **Crack and Pour** for ease and speed - no measuring, no glassware to wash.
- **Snip Tool** reduces glass cuts. Snipped tips remain in tool.
- **Specially formulated** for crude oil applications to ensure complete sample dissolution.
- **Compatible** with all titrator brands.

Watch how it works!



COULOMETRIC REAGENT KITS FOR OILS

SKU: 19026

ITEM: 5605

KIT CONTAINS:

- 8x100 mL bottles of anolyte
- 8x5 mL ampoules of catholyte
- One snip tool

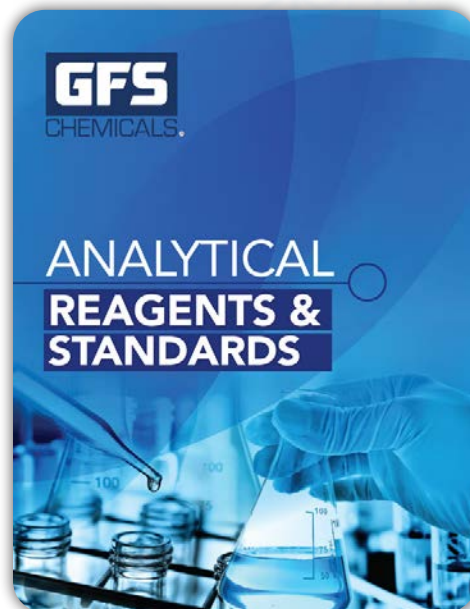
Suitable for ASTM D4928



WATER MARK

FOR MORE
INFORMATION
service@gfschemicals.com
or call 800.858.9682

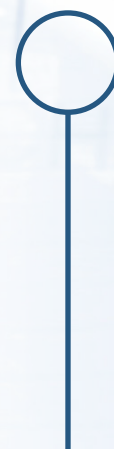
ITEM #	PRODUCT NAME
HPLC/GC Veritas Ultimate	
5564	CYCLOHEXANE, VERITAS ULTIMATE
5565	DICHLOROMETHANE, VERITAS ULTIMATE
5566	ETHYL ACETATE, VERITAS ULTIMATE
1238	ETHYL ETHER, VERITAS ULTIMATE
5569	ISOPROPYL ALCOHOL, VERITAS ULTIMATE
5572	METHYL ETHYL KETONE, VERITAS ULTIMATE
5570	METHYL ALCOHOL, LC-MS, VERITAS ULTIMATE
1995	METHYL ALCOHOL, VERITAS ULTIMATE, for PURGE and TRAP
5567	n-HEPTANE, VERITAS ULTIMATE
5568	n-HEXANE, VERITAS ULTIMATE
5574	n-PENTANE, VERITAS ULTIMATE
5575	PETROLEUM ETHER, VERITAS ULTIMATE
5576	TETRAHYDROFURAN, VERITAS ULTIMATE
5577	TOLUENE, VERITAS ULTIMATE
5578	2,2,4-TRIMETHYLPENTANE (Isooctane), GC, RESIDUE, HPLC, VERITAS ULTIMATE
HPLC	
2481	ACETONE, HPLC
2482	ACETONITRILE, HPLC
1859	CARBON DISULFIDE, (LOW BENZENE) HPLC
2495	CYCLOHEXANE, HPLC
2484	DICHLOROMETHANE, HPLC
2488	ETHYL ACETATE, HPLC
2487	HEPTANE, HPLC
2497	HEXANES, HPLC
2489	ISOPROPYL ALCOHOL, HPLC
2483	METHYL ALCOHOL, HPLC
2490	METHYL tert-BUTYL ETHER, HPLC
2491	n-PENTANE, HPLC
2492	TETRAHYDROFURAN, HPLC
2493	TOLUENE, HPLC



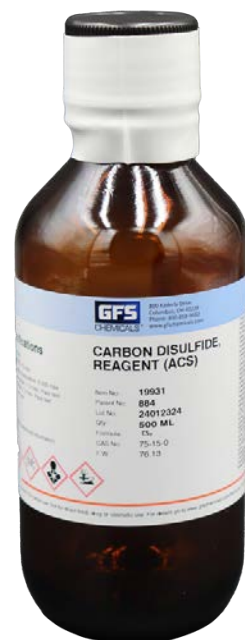
GFS' high purity solvents are application and function tested to ensure lot to lot consistency, for confidence you can trust.

Find solutions and much more in our Analytical Reagents and Standards brochure.

ORDER YOURS TODAY!



ITEM #	PRODUCT NAME
ACS/Reagent Grade	
828	ACETONE, REAGENT (ACS)
829	ACETONE, ACS ULTRAVIOLET SPECTROPHOTOMETRY GRADE
830	ACETONITRILE, REAGENT (ACS)
865	n-BUTANOL, (ACS)
5244	sec-BUTYL ALCOHOL, 99%
2393	tert-BUTYL ALCOHOL, REAGENT (ACS)
884	CARBON DISULFIDE, REAGENT (ACS)
1072	CHLOROBENZENE, REAGENT (ACS)
3777	CHLOROFORM, REAGENT (ACS), ALCOHOL STABILIZED
2394	CHLOROFORM, REAGENT (ACS), HYDROCARBON STABILIZED
907	CYCLOHEXANE, REAGENT (ACS)
908	CYCLOHEXANONE, REAGENT (ACS)
1064	1,2-DICHLOROETHANE, (ACS)
909	DICHLOROMETHANE, REAGENT (ACS)
910	DIETHANOLAMINE, REAGENT (ACS)
5403	DIETHYLENE GLYCOL, 99%
4829	DIETHYLENE GLYCOL DIMETHYL ETHER, 99%
5405	DIETHYLENE GLYCOL MONOETHYL ETHER, 99%
5407	DIETHYLENE GLYCOL MONOMETHYL ETHER, 98%
915	DIOXANE, REAGENT (ACS)
918	ETHYL ACETATE, REAGENT (ACS)
916	ETHYL ETHER, ANHYDROUS, REAGENT (ACS)
917	ETHYL ETHER, REAGENT (ACS)
920	ETHYLENE GLYCOL, REAGENT
1682	HEPTANE, REAGENT GRADE
5328	HEXANES, for EPA METHOD 1664A
928	HEXANES, REAGENT (ACS)
2295	ISOAMYL ALCOHOL, REAGENT (ACS)
934	ISOBUTYL ALCOHOL, REAGENT (ACS)
2961	ISOPENTANE, 99%
817	ISOPROPYL ALCOHOL
9143	ISOPROPYL ALCOHOL, 70% v/v, in WATER



Carbon Disulfide, Reagent (ACS)

ITEM #	ACS/REAGENT GRADE SOLUTIONS
4524	ETHYL ALCOHOL, ABSOLUTE REAGENT (ACS)
2489	ISOPROPYL ALCOHOL, LOW WATER (ACS)
2294	ISOPROPYL ALCOHOL, REAGENT (ACS)
1679	METHYL ALCOHOL, REAGENT (ACS)
2575	METHYL ALCOHOL, LOW WATER, REAGENT (ACS)
814	METHYL ALCOHOL, IRON AND COPPER FREE
959	METHYL ETHYL KETONE, REAGENT (ACS)
961	METHYL SULFOXIDE, REAGENT (ACS)
2268	METHYL tert-BUTYL ETHER, REAGENT (ACS)
3775	N,N-DIMETHYLACETAMIDE, 99%
913	N,N-DIMETHYLFORMAMIDE, REAGENT (ACS)
1075	n-PENTANE, REAGENT
5787	PENTANE, 99.5%
979	PETROLEUM ETHER, REAGENT (ACS)
1975	PROPYLENEGLYCOL, REAGENT (ACS)
702	PYRIDINE, (ACS)
1850	REAGENT ALCOHOL, ANHYDROUS: SDA FORMULA 3-A
1203	TETRAHYDROFURAN, REAGENT (ACS)
1052	TOLUENE, REAGENT (ACS)
1053	TRICHLOROETHYLENE, REAGENT (ACS)
1055	2,2,4-TRIMETHYLPENTANE (Isooctane), (ACS)
1059	XYLENES, REAGENT (ACS)
5475	o-XYLENE, 97%
5477	p-XYLENE, 99%
Titration	
9031	TITRATION SOLVENT FOR ASTM D2896
9032	TITRATION SOLVENT FOR ASTM D4739 SEC 7.15
1281	TITRATION SOLVENT FOR ASTM D664
1282	TITRATION SOLVENT, ALKALINE, FOR ASTM D3227
1896	TITRATION SOLVENT, ACIDIC, FOR ASTM D3227

GFS Chemicals offers mixed titration solvents, eliminating glassware cleaning and reducing measuring/mixing, saving time and money.

COMING SOON:
SOLVENT FOR BROMINE
NUMBER PER ASTM D1159



ACS/Reagent Grade Acids

GFS has perfected the manufacturing process to produce acids from ACS and parts per billion (ppb) to part per trillion (ppt) levels of residue with virtually no trace level contaminants.

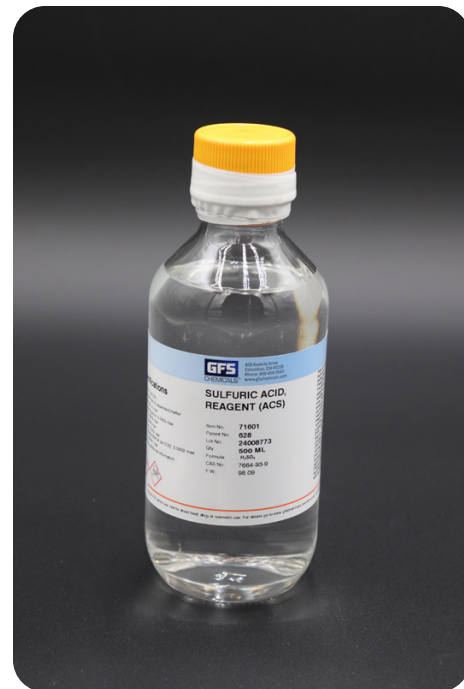
ITEM #	PRODUCT NAME
Acetic Acid	
624	ACETIC ACID, GLACIAL, REAGENT (ACS)
2583	ACETIC ACID, SUPERIOR REAGENT (ACS)
1685	ACETIC ACID SOLUTION, 84%, REAGENT
2004	ACETIC ACID SOLUTION, 20% v/v
2005	ACETIC ACID SOLUTION, 30% v/v
2006	ACETIC ACID SOLUTION, 70%
Hydrochloric Acid	
625	HYDROCHLORIC ACID 37% (ACS)
2586	HYDROCHLORIC ACID, 37%, SUPERIOR REAGENT (ACS)
722	HYDROCHLORIC ACID, SOLUTION, 0.1 N
1162	HYDROCHLORIC ACID, SOLUTION, 0.5 N
382	HYDROCHLORIC ACID, SOLUTION, 1.0 N
Hydrofluoric Acid	
931	HYDROFLUORIC ACID, 48%, (ACS)



From trace metal (ppt and ppb) grades to ACS GFS has the acid for your application.

ORDER ACS/REAGENT GRADE ACIDS TODAY!

ITEM #	PRODUCT NAME
Nitric Acid	
626	NITRIC ACID, REAGENT (ACS)
2587	NITRIC ACID, SUPERIOR REAGENT (ACS)
1176	NITRIC ACID, SOLUTION, 1.0 N
1280	NITRIC ACID, SOLUTION, 10% w/w
1278	NITRIC ACID, SOLUTION, 15% w/w
Perchloric Acid	
66	PERCHLORIC ACID, 70%, REAGENT (ACS)
2477	PERCHLORIC ACID, 70% SUPERIOR REAGENT (ACS)
69	PERCHLORIC ACID, 60%, REAGENT (ACS)
2967	PERCHLORIC ACID, 60% SUPERIOR REAGENT (ACS)
6601	PERCHLORIC ACID, 50%, REAGENT (ACS)
2478	PERCHLORIC ACID, 40% REAGENT
71	PERCHLORIC ACID in ACETIC ACID. 0.01 N
Phosphoric Acid	
627	PHOSPHORIC ACID, 85%, REAGENT (ACS)
1589	PHOSPHORIC ACID, 85%, SUPERIOR REAGENT (ACS)
5453	PHOSPHORIC ACID, 99.999%, 85% SOLUTION
Sulfuric Acid	
628	SULFURIC ACID, REAGENT (ACS)
2588	SULFURIC ACID, SUPERIOR REAGENT (ACS)
1565	SULFURIC ACID, 70%, REAGENT
2173	SULFURIC ACID, 37%, SOLUTION
1977	SULFURIC ACID, SOLUTION, 18 N
1199	SULFURIC ACID, SOLUTION, 0.1 N
1200	SULFURIC ACID, SOLUTION, 0.5 N
1201	SULFURIC ACID, SOLUTION, 1 N
2158	SULFURIC ACID, SOLUTION, 5.00 N
9005	SULFURIC ACID, SOLUTION, 6 N



From 500 ml bottles to bulk orders GFS Chemicals will support your needs.

**REAGENT LIST FOR
ASTM D2896**

Whether you are analyzing crude oil or finished lubricants, GFS Chemicals offers a wide range of laboratory chemicals to meet your testing needs. Designed to save you time and money, choose GFS premixed solvents for various ASTM methods such as D564, D2095, D4739, D8045, and D1159.

BASE NUMBER OF PETROLEUM PRODUCTS BY POTENTIOMETRIC PERCHLORIC ACID TITRATION					
CATEGORY	DESCRIPTION	SIZE	ITEM	SKU	
Premixed Solvent	ASTM D2896 SOLVENT	4L	9031	74926	
	Chlorobenzene: Glacial Acetic Acid 2:1 Ratio	20L	9031	80521	
		200 L	9031	74928	
Titrant	Perchloric Acid in Acetic Acid, 0.1N	500 mL	71	55953	
		2.5L	71	55951	
Titrant Standardization	KHP (Potassium Acid Phthalate)	150 g	554	60000	
Electrode Filling Solution	Sodium Acetate in Glacial Acetic Acid, 0.1N	1 L	9004	20171	
	Sodium Perchlorate Electrolyte, Saturated	100 mL	5920	27911	
Buffers	pH 4	500 mL	1634	18411	
	pH 7	500 mL	1639	18511	
	pH 10	500 mL	2548	18481	
OPTIONS		DESCRIPTION	SIZE	ITEM	SKU
	Glacial Acetic Acid		2.5 L	624	10302
			10 2.5 L	224	10305
	Chlorobenzene		4 L	1012	21792
			16 4 L	1072	21794
	Acetic Anhydride		500 mL	714	10401
	Sodium Carbonate, Anhydrous, 99.99%		25 g	7050	66495

ASTM D2896-15, Standard Test Method for Base Number of Petroleum Products by Potentiometric Titration, ASTM International, West Conshohocken, PA 2015, www.astm.org

GFS CHEMICALS
For more info contact:
email: info@gfschemicals.com
or call: 800.958.7692
155 Hidden Ravines Dr | Powell, Ohio 43065
www.gfschemicals.com

Take a look at the wide range of laboratory chemicals to meet your testing needs!

Other ACS/Reagent Grade Acids

1681	BORIC ACID, PRIMARY STANDARD
2039	BORIC ACID SOLUTION, 5% w/v
1332	BORIC ACID, REAGENT (ACS), POWDER
2048	CITRIC ACID SOLUTION, 10% w/v
1588	CITRIC ACID, ANHYDROUS, LOW METALS GRADE
2585	FORMIC ACID, 88%, SUPERIOR REAGENT (ACS)
5949	FORMIC ACID, 98%
930	HYDROBROMIC ACID, 48% (ACS)
2399	HYDROIODIC ACID 47 %, (ACS)
9321	HYDROGEN PEROXIDE SOLUTION, 3%
44	IODIC ACID, REAGENT (ACS)
2091	OXALIC ACID SOLUTION, 10% w/v
652	OXALIC ACID DIHYDRATE, REAGENT (ACS)
2450	OXALIC ACID, ANHYDROUS, 98%
1277	OXALIC ACID DIHYDRATE, HIGH PURITY
74	PERIODIC ACID, REAGENT (ACS)
7402	PERIODIC ACID, SOLUTION, 50%
98	SULFAMIC ACID, CERTIFIED, PRIMARY STANDARD
1109	SULFUROUS ACID, 6%, REAGENT (ACS)
809	L-TARTARIC ACID (ACS)
3331	TRIFLUOROACETIC ACID 99.5%



Veritas® Trace Metal Grade Acids



ITEM #	PRODUCT NAME
Acetic Acid	
546	ACETIC ACID, VERITAS REDISTILLED
1261	ACETIC ACID, VERITAS DOUBLE DISTILLED
7150	VERITAS TRACE ACETIC ACID
7250	VERITAS ULTIMATE ACETIC ACID
Formic Acid	
1262	FORMIC ACID, 88%, VERITAS DOUBLE DISTILLED
Hydrochloric Acid	
2180	HYDROCHLORIC ACID, 32-38%. VERITAS REDISTILLED
504	HYDROCHLORIC ACID, 6 M, VERITAS REDISTILLED
7110	VERITAS TRACE HYDROCHLORIC ACID
7210	VERITAS ULTIMATE HYDROCHLORIC ACID
Nitric Acid	
63	NITRIC ACID, 69%, VERITAS REDISTILLED
621	NITRIC ACID, VERITAS DOUBLE DISTILLED
7100	VERITAS TRACE NITRIC ACID
7200	VERITAS ULTIMATE NITRIC ACID
Perchloric Acid	
67	PERCHLORIC ACID, 70%, VERITAS REDISTILLED
230	PERCHLORIC ACID, 70%, VERITAS DOUBLE DISTILLED
7140	VERITAS TRACE PERCHLORIC ACID
7240	VERITAS ULTIMATE PERCHLORIC ACID



VERITAS.

Veritas Ultimate PPT Trace Metal grade acids are manufactured using proprietary technology that can produce the purest acids for trace metal analysis in the world. The entire process is controlled by sophisticated, state-of-the-art automation paired with next generation process controls and analytics that ensure the highest quality material with the minimal variation. Our acid plant runs 24 hours/day, 7 days a week, which allows GFS Chemicals to handle large volume orders and requests.

ORDER VERITAS GRADE ACIDS TODAY!



Veritas® Trace Metal Grade Acids

ITEM #	PRODUCT NAME
Hydrofluoric Acid	
1229	HYDROFLUORIC ACID, VERITAS DOUBLE DISTILLED
Sulfuric Acid	
273	SULFURIC ACID, VERITAS DOUBLE DISTILLED
7120	VERITAS TRACE SULFURIC ACID
7220	VERITAS ULTIMATE SULFURIC ACID
Other Trace Metal Acids	
2448	HYDROGEN PEROXIDE, 99.999%, 30-32% IN WATER
5359	PERIODIC ACID, 99.99+%
Ultra Pure Water	
7290	VERITAS ULTIMATE TYPE I WATER

Ultimate Ultrapure Water VERITAS

Using the highest quality solutions in your testing is the best way to control consistency and accuracy - and it all starts with water. GFS Chemicals' ultrapure water is produced using a combination of proprietary techniques and bottled in an ISO 4 environment. The result is water that is virtually free from impurities, including organic and inorganic contaminants. Meeting ASTM Type 1 water requirements, each lot is analyzed for 65 impurities. GFS Chemicals' new ultrapure water and acids will minimize the variability in your results and decrease instrument and sample contamination.

SKU#	Size	Product	Minimum Specifications:
72930	2 L	Veritas Ultimate Ultrapure Water	• Resistivity: >18.2 MΩ·cm
72920	1 L	Veritas Ultimate Ultrapure Water	• Conductivity: <0.056 µS/cm
72910	500 mL	Veritas Ultimate Ultrapure Water	• TOC: <50 ppb

COA At A Glance:

Arsenic	0-10 ppt
Cadmium	0-10 ppt
Chromium	0-10 ppt
Lead	0-10 ppt
Mercury	0-20 ppt

Applications:

- Microwave digestion
- ICP-MS, GC, and HPLC sample dilution
- Blank and standards preparation
- Mobile phase preparation
- Buffer and reagent preparation for biochemical assays



GFS CHEMICALS
CELEBRATING 50 YEARS

Using the highest quality solutions in your testing is the best way to control consistency and accuracy - and it all starts with water. GFS Chemicals' ultrapure water is produced using a combination of proprietary techniques and bottled in an ISO 5 environment. The result is water that is virtually free from impurities, including organic and inorganic contaminants. Meeting ASTM Type 1 water requirements, each lot is analyzed for 65 impurities. GFS Chemicals' new ultrapure water and acids will minimize the variability in your results and decrease instrument and sample contamination.

**ORDER VERITAS
GRADE ACIDS TODAY!**

ACS Reagents & Solutions

GFS Chemicals manufactures and stocks a variety of ACS Reagent salts, acids, bases, indicators and solutions necessary for running any analytical chemistry laboratory. Materials are made fresh and in stock and ready to go.

ITEM #	PRODUCT NAME
714	ACETIC ANHYDRIDE, (ACS)
547	AMMONIUM ACETATE, REAGENT (ACS)
5003	AMMONIUM CHLORIDE, 99.999%
835	ALUMINUM CHLORIDE, HEXAHYDRATE, REAGENT
834	ALUMINUM CHLORIDE, ANHYDROUS
6451	AMMONIUM CHLORIDE, LOW NITRATE, REAGENT (ACS)
2590	AMMONIUM HYDROXIDE, ENVIRONMENTAL GRADE
2584	AMMONIUM HYDROXIDE, SUPERIOR REAGENT (ACS)
3553	AMMONIUM HYDROXIDE SOLUTION, 1 N
9782	AMMONIUM HYDROXIDE SOLUTION, 6 N
774	AMMONIUM MOLYBDATE (ACS)
646	AMMONIUM NITRATE, REAGENT (ACS)
5127	AMMONIUM NITRATE, 99.999%
843	AMMONIUM PERSULFATE, REAGENT (ACS)
775	AMMONIUM THIOCYANATE, (ACS)
1138	AMMONIUM THIOCYANATE, 0.1 N SOLUTION
602	BARIUM CHLORIDE, DIHYDRATE, REAGENT (ACS)
2034	BARIUM CHLORIDE SOLUTION, 0.1 M
1143	BARIUM CHLORIDE SOLUTION, 0.5 M (12%)
5000	BARIUM PERCHLORATE, 0.01 N, AQUEOUS SOLUTION
859	BARIUM SULFATE, REAGENT
864	BISMUTH NITRATE, PENTAHYDRATE, REAGENT (ACS)
868	CADMIUM CHLORIDE, ANHYDROUS, REAGENT (ACS)
1150	CADMIUM SULFATE HYDRATED, REAGENT (ACS)
2054	CUPRIC SULFATE SOLUTION, 0.01 M
2053	CUPRIC SULFATE SOLUTION, 5% w/v



Interested in ACS products?
 Call **(800.858.9682)** or
 E-mail service@gfscchemicals.com

ITEM #	PRODUCT NAME
6661	CUPRIETHYLENEDIAMINE SOLUTION, 0.5 M
666	CUPRIETHYLENEDIAMINE SOLUTION, 1 M
1152	DISODIUM DIHYDROGEN ETHYLENEDIAMINETETRAACETATE SOLUTION, 0.01M
1553	DISODIUM DIHYDROGEN ETHYLENEDIAMINETETRAACETATE SOLUTION, 0.0575 M
1151	DISODIUM DIHYDROGEN ETHYLENEDIAMINETETRAACETATE SOLUTION, 0.05 M
720	DISODIUM DIHYDROGEN ETHYLENEDIAMINETETRAACETATE SOLUTION, 0.1 M
41	ETHYLENEDIAMMONIUM SULFATE, PRIMARY STANDARD
922	FERRIC NITRATE, (ACS)
551	FERROUS SULFATE HEPTAHYDRATE, (ACS)
1083	HYDROXYLAMMONIUM CHLORIDE, 10% AQUEOUS
1578	HYDROXYLAMMONIUM CHLORIDE, REAGENT (ACS), LOW MERCURY
5485	HYDROXYLAMMONIUM SULFATE, REAGENT (ACS)
1973	IMIDAZOLE, REAGENT (ACS)
723	IODINE, ACS
1164	IODINE, SOLUTION, 0.1 N
2073	IODINE, SOLUTION, 0.5 N
1163	IODINE, SOLUTION, 1 N
5820	KEROSENE
936	LEAD ACETATE, TRIHYDRATE, (ACS)
607	LEAD NITRATE, (ACS)
2076	LEAD PERCHLORATE SOLUTION, 0.1 M
49	LEAD PERCHLORATE, TRIHYDRATE, REAGENT (ACS)
609	LITHIUM CARBONATE, REAGENT (ACS)
5034	LITHIUM CARBONATE, 99.999%
5805	LITHIUM CHLORIDE in ETHANOL, 1 M
610	LITHIUM METABORATE, ANHYDROUS, (ACS)
221	LITHIUM PERCHLORATE, ANHYDROUS, REAGENT (ACS)
53	LITHIUM PERCHLORATE, TRIHYDRATE, (ACS) REAGENT
612	LITHIUM SULFATE, MONOHYDRATE, REAGENT (ACS)
819	LITHIUM TETRABORATE. 99.9%
54	MAGNESIUM PERCHLORATE, ANHYDROUS, REAGENT (ACS)
55	MAGNESIUM PERCHLORATE, ANHYDROUS, REAGENT (ACS), 10 - 20 MESH



Cupriethylenediamine Solution, 1M



Imidazole Reagent (ACS)



Lithium Chloride in Ethanol, 1M

ITEM #	PRODUCT NAME
613	MERCURIC NITRATE, MONOHYDRATE, REAGENT (ACS)
5045	MERCURIC NITRATE, MONOHYDRATE, 99.999%
9171	MERCURIC NITRATE SOLUTION, 0.01 N
2080	MERCURIC NITRATE SOLUTION, 0.1 N
5431	METHYL ACETATE, 99%
5616	PARAFORMALDEHYDE POWDER
2605	PARAFORMALDEHYDE, PRILLS
793	POTASSIUM ACETATE, REAGENT (ACS)
554	POTASSIUM ACID PHTHALATE (KHP), PRIMARY STANDARD
2546	POTASSIUM BROMATE - BROMIDE SOLUTION, 0.2 N
987	POTASSIUM CHLORATE, REAGENT (ACS)
653	POTASSIUM CHLORIDE, REAGENT (ACS)
384	POTASSIUM CHLORIDE, SOLUTION, 1 N
9328	POTASSIUM CHLORIDE, SOLUTION, 3 M
989	POTASSIUM CHROMATE, (ACS)
78	POTASSIUM DICHROMATE, CERTIFIED
629	POTASSIUM HYDROXIDE, PELLETS, (ACS)
3572	POTASSIUM HYDROXIDE SOLUTION 0.01 N, IN ISOPROPANOL
1972	POTASSIUM HYDROXIDE SOLUTION 0.1 N, IN ISOPROPANOL
1984	POTASSIUM HYDROXIDE SOLUTION, 0.01 N IN METHANOL
2475	POTASSIUM HYDROXIDE SOLUTION, 0.05 N IN METHANOL
1674	POTASSIUM HYDROXIDE SOLUTION, 0.1 N IN METHANOL
1182	POTASSIUM HYDROXIDE SOLUTION, 0.1 N
1183	POTASSIUM HYDROXIDE SOLUTION, 0.5 N
1184	POTASSIUM HYDROXIDE SOLUTION, 1 N
79	POTASSIUM IODATE, (ACS)
1648	POTASSIUM IODATE, SOLUTION, 0.1 N (0.025 mol/L) TITRANT
1185	POTASSIUM IODATE, SOLUTION, 0.1 N, (0.0167 mol/L) IODIMETRIC STANDARD
1564	POTASSIUM IODATE-IODIDE, SOLUTION, 0.1 N
2269	POTASSIUM IODATE-IODIDE, SOLUTION, 0.5 N
654	POTASSIUM IODIDE, REAGENT (ACS)
2191	POTASSIUM IODIDE, SOLUTION 10% w/v
2274	POTASSIUM IODIDE, SOLUTION, 20%
2102	POTASSIUM IODIDE, SOLUTION, 5% w/v
794	POTASSIUM NITRITE, REAGENT (ACS)

REAGENT LIST FOR ASTM D664

Whether you are analyzing crude oil or finished lubricants, GFS Chemicals offers a wide range of laboratory chemicals to meet your testing needs. Designed to save you time and money, choose GFS premixed solvents for various ASTM methods such as D664, D2896, D4739, D8045, and D1159.

TEST METHOD A FOR DETERMINATION OF ACIDIC CONSTITUENTS IN PETROLEUM PRODUCTS & LUBRICANTS

CATEGORY	DESCRIPTION	SIZE	ITEM	SKU
Premixed Solvent	ASTM D664 SOLVENT	4 L	1281	74911
	Suitable for D974 & D1339	20 L	1281	74913
Titrant	0.1M Potassium Hydroxide in Isopropyl Alcohol	1 L	1972	40883
Titrant Standardization	KHP (Potassium Acid Phthalate)	100 g	554	60660
CO ₂ Absorber	Soda Lime, Indicator, 4-in Mesh	500 g	3021	66356
Electrode Filling Solution	TM Lithium Chloride in Ethanol	100 mL	5805	26751
	part 4	500 mL	1634	18411
Buffers	pH 7	500 mL	1639	18311
	pH 10	500 mL	1645	18371
	#77/10 Kit (2) 500 mL bottles of each pH	1 L	2549	18331
OPTIONS	DESCRIPTION	SIZE	ITEM	SKU
KOH	Potassium Hydroxide, Pellets	500 g	629	60801
2-Propanol	Isopropyl Alcohol, (99.97% 1% _{v/v})	4 L	2489	46133
	(0.4 L)	2489	46134	
Toluene	Toluene, ACS	4 L	1052	74952
	(0.4 L)	1052	74953	
Electrode Cleaning	Xylenes, ACS	500 mL	1059	76779
	Hydrotane, Reagent Grade	500 mL	1662	41223
	Chloroform, Alcohol Stabilized	500 mL	3777	10671
Electrode Regeneration	0.1M HCL	1 L	722	43904



ASTM D664 Test Method Test Method for Acid Number of Petroleum Products by Potentiometric Titration, ASTM International West Conshohocken, PA 2019 www.astm.org

For more info contact service@gfschemicals.com or call 800.858.9682

155 Hidden Ravines Dr | Powell, Ohio 43065 www.gfschemicals.com

Designed to save you time and money GFS's premixed solvents are available for various ASTM methods such as D664, D2896, D4739, D8045, and D1159.

Interested in special packaging options for eliminating potential waste? We can assist in the packaging and shipping. Contact us today at **(800.858.9682)** or email at **service@gfschemicals.com**

ITEM #	PRODUCT NAME
80	POTASSIUM PERCHLORATE, REAGENT (ACS)
5084	POTASSIUM PERIODATE, 99.99%
81	POTASSIUM PERIODATE, REAGENT (ACS)
556	POTASSIUM PERMANGANATE, (ACS)
1693	POTASSIUM PERMANGANATE, LOW MERCURY, (ACS)
1186	POTASSIUM PERMANGANATE, SOLUTION, 0.1 N
9004	POTASSIUM PERMANGANATE, SOLUTION, 0.891 g/L
731	POTASSIUM PHOSPHATE, DIBASIC, REAGENT (ACS)
732	POTASSIUM PHOSPHATE, MONOBASIC, GRANULAR, REAGENT (ACS)
9370	POTASSIUM THIOCYANATE, SOLUTION, 0.1 N
9795	POTASSIUM THIOCYANATE, SOLUTION, 10% w/v
2103	POTASSIUM THIOCYANATE, SOLUTION, 5% w/v
5165	SCANDIUM CHLORIDE, HEXAHYDRATE, 99.99%
5166	SCANDIUM NITRATE, HYDRATE, 99.99%
2187	SILVER NITRATE SOLUTION 10% w/v
378	SILVER NITRATE, REAGENT (ACS)
5584	SILVER NITRATE, SOLUTION, 0.02 N, IN ISOPROPYL ALCOHOL
3514	SILVER NITRATE, SOLUTION, 0.0141 N
2106	SILVER NITRATE, SOLUTION, 0.02 N
1285	SILVER NITRATE, SOLUTION, 0.05 N
733	SILVER NITRATE, SOLUTION, 0.10 N
2107	SILVER NITRATE, SOLUTION, 0.141 N
9283	SILVER NITRATE, SOLUTION, 0.20 N
2108	SILVER NITRATE, SOLUTION, 0.5 N
1675	SILVER NITRATE, SOLUTION, 1.0 N
618	SILVER SULFATE, REAGENT (ACS)
3021	SODA LIME, Indicating 4-8 MESH
9064	SODIUM ACETATE, 0.1 N, IN ACETIC ACID
1542	SODIUM ACETATE, SOLUTION, 20%, IN WATER
656	SODIUM ACETATE, TRIHYDRATE, REAGENT (ACS)
2111	SODIUM BICARBONATE, SOLUTION 0.1 M



Silver Nitrate

ITEM #	PRODUCT NAME
2114	SODIUM BROMIDE SOLUTION, 10% w/v
7050	SODIUM CARBONATE ANHYDROUS, 99.99%
2116	SODIUM CARBONATE SOLUTION, 5% w/v
9837	SODIUM CARBONATE, SOLUTION, 0.02 N
2119	SODIUM CARBONATE, SOLUTION, 1.0 N
1029	SODIUM CHLORATE, REAGENT (ACS)
657	SODIUM CHLORIDE, REAGENT (ACS)
5755	SODIUM DIETHYLENTRIAMINEPENTAACETATE, 40% AQUEOUS SOLUTION
619	SODIUM FORMATE, REAGENT (ACS)
1989	SODIUM HYDROXIDE SOLUTION, 10%
2129	SODIUM HYDROXIDE SOLUTION, 25% w/w
5609	SODIUM HYDROXIDE SOLUTION, 40% w/w
2131	SODIUM HYDROXIDE SOLUTION, 50% w/w, REAGENT GRADE
630	SODIUM HYDROXIDE, REAGENT (ACS)
2291	SODIUM HYDROXIDE, SOLUTION, 0.1 N, IN ETHANOL
2133	SODIUM HYDROXIDE, SOLUTION, 0.02 N
2172	SODIUM HYDROXIDE, SOLUTION, 0.05 N
1191	SODIUM HYDROXIDE, SOLUTION, 0.1 N
2198	SODIUM HYDROXIDE, SOLUTION, 0.2 N
1192	SODIUM HYDROXIDE, SOLUTION, 0.5 N
1193	SODIUM HYDROXIDE, SOLUTION, 1.0 N
1551	SODIUM HYDROXIDE, SOLUTION, 5 N
1579	SODIUM HYDROXIDE, SOLUTION, 10 N
5285	SODIUM HYPOCHLORITE SOLUTION, 10-13% AVAILABLE CHLORINE
2763	SODIUM HYPOCHLORITE SOLUTION, 5% AVAILABLE CHLORINE, REAGENT (ACS)
1033	SODIUM IODIDE (ACS)
93	SODIUM META PERIODATE, REAGENT (ACS)
658	SODIUM NITRATE, REAGENT (ACS)
6581	SODIUM NITRATE, LOW CHLORIDE
2137	SODIUM NITRATE, SOLUTION, 5 M
559	SODIUM NITRITE, REAGENT (ACS)
2139	SODIUM NITRITE, SOLUTION, 1 M
91	SODIUM PERCHLORATE, ANHYDROUS, REAGENT (ACS)
92	SODIUM PERCHLORATE, MONOHYDRATE, REAGENT (ACS)

ITEM #	PRODUCT NAME
5920	SODIUM PERCHLORATE ELECTROLYTE, SATURATED IN GLACIAL ACETIC ACID
843	SODIUM PERSULFATE, (ACS)
734	SODIUM PHOSPHATE, DIBASIC, ANHYDROUS, REAGENT (ACS)
803	SODIUM SULFATE, ANHYDROUS, GRANULAR, REAGENT (ACS)
5524	SODIUM SULFITE, ZERO DISSOLVED OXYGEN SOLUTION
805	SODIUM TARTRATE, DIHYDRATE, REAGENT (ACS)
806	SODIUM TETRABORATE, DECAHYDRATE, REAGENT (ACS)
2145	SODIUM THIOCYANATE SOLUTION, 0.1 N
1559	SODIUM THIOSULFATE SOLUTION, 0.01 N
9226	SODIUM THIOSULFATE SOLUTION, 0.025 N
2146	SODIUM THIOSULFATE SOLUTION, 0.05 N
736	SODIUM THIOSULFATE SOLUTION, 0.1 N
9271	SODIUM THIOSULFATE SOLUTION, 0.282 N
2177	SODIUM THIOSULFATE SOLUTION, 0.5 N
1195	SODIUM THIOSULFATE SOLUTION, 1.0 N
562	STANNOUS CHLORIDE, DIHYDRATE, REAGENT (ACS)
2149	STANNOUS CHLORIDE, 40%, SOLUTION
2150	STANNOUS CHLORIDE, REAGENT I, SOLUTION
2537	STARCH INDICATOR SOLUTION, 1%
2152	STARCH INDICATOR SOLUTION, 2%
807	STRONTIUM CHLORIDE, HEXAHYDRATE, REAGENT (ACS)
808	STRONTIUM NITRATE, REAGENT (ACS)
2262	TETRABUTYLAMMONIUM HYDROXIDE, 4 M AQUEOUS, ELECTROMETRIC GRADE
2984	TETRABUTYLAMMONIUM HYDROXIDE, 40% AQUEOUS SOLUTION
2520	TETRAETHYLAMMONIUM HYDROXIDE, 20% AQUEOUS SOLUTION
2528	TETRAPROPYLAMMONIUM HYDROXIDE, 1 M AQUEOUS SOLUTION
2790	TRIETHANOLAMINE, 0.2 N AQUEOUS SOLUTION
9053	TRIETHANOLAMINE, 0.5 N AQUEOUS SOLUTION
176	TRIS(HYDROXYMETHYL)AMINOMETHANE, PRIMARY STANDARD
2169	WIJS SOLUTION
1206	ZINC ACETATE, DIHYDRATE, (ACS)
1062	ZINC OXIDE (ACS)
669	ZINC SULFATE, (ACS)

Organic Halogen Reagent (OHR)

Developed to release organically-bound chloride which can subsequently be titrated with silver nitrate.

5005	ORGANIC HALOGEN REAGENT, (Sodium Biphenyl Solution)
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pH Buffers

GFS Chemicals manufactures a vast assortment pH buffers for use in research, analytical and manufacturing laboratories. GFS performs pH testing under an ISO/IEC 17025 accredited management system.

ITEM #	PRODUCT NAME
2325	BUFFER SOLUTION, pH 1.00
1632	BUFFER SOLUTION, pH 2.00
1633	BUFFER SOLUTION, pH 3.00
1634	BUFFER SOLUTION, pH 4.00, (COLOR CODED RED)
680	BUFFER SOLUTION, pH 4.00
1635	BUFFER SOLUTION, pH 5.00
1636	BUFFER SOLUTION, pH 5.50
1637	BUFFER SOLUTION, pH 6.00
1638	BUFFER SOLUTION, pH 6.86
681	BUFFER SOLUTION, pH 7.00
1639	BUFFER SOLUTION, pH 7.00, (COLOR CODED YELLOW)
1640	BUFFER SOLUTION, pH 7.00, (COLOR CODED GREEN)
1642	BUFFER SOLUTION, pH 8.00
1643	BUFFER SOLUTION, pH 9.00
1644	BUFFER SOLUTION, pH 9.18
682	BUFFER SOLUTION, pH 10
1645	BUFFER SOLUTION, pH 10, (COLOR CODED BLUE)
2548	BUFFER SOLUTION, pH 11.00
1647	BUFFER SOLUTION, pH 12.00
2176	BUFFER SOLUTION, pH 12.45
2549	BUFFER pH 4, 7, 10 KIT



[Explore our buffer solution kits](#)

[VIEW OUR QUALITY CERTIFICATES ONLINE!](#)

Conductivity Standards

Conductivity measurements are critical measurements in many processes. GFS manufactures a selection of aqueous conductivity standards to match your requirements.

ITEM #	PRODUCT NAME
9481	10 uS/cm, CONDUCTIVITY STANDARD
9477	84 uS/cm, CONDUCTIVITY STANDARD
9307	100 uS/cm, CONDUCTIVITY STANDARD
9245	147 uS/cm, CONDUCTIVITY STANDARD
9376	400 uS/cm, CONDUCTIVITY STANDARD
9413	1,000 uS/cm, CONDUCTIVITY STANDARD
2174	1,413 uS/cm, CONDUCTIVITY STANDARD
9414	10,000 uS/cm, CONDUCTIVITY STANDARD
3747	12,880 uS/cm, CONDUCTIVITY STANDARD
2381	25,000 uS/cm, CONDUCTIVITY STANDARD
9205	50,000 uS/cm, CONDUCTIVITY STANDARD
9357	100,000 uS/cm, CONDUCTIVITY STANDARD



GFS Chemicals performs conductivity testing under a ISO/IEC 17025 accredited management system. our quality certificates are available online at [gfschemicals.com/About-Us/Quality](https://www.gfschemicals.com/About-Us/Quality)

APHA Color Standards

The APHA color measurement method measures the yellow hue in liquids in comparison to a platinum cobalt reference solution.

ITEM #	PRODUCT NAME
9498	APHA 10 COLOR STANDARD SOLUTION
9033	APHA 100 COLOR STANDARD SOLUTION
9418	APHA 250 COLOR STANDARD SOLUTION
2051	APHA 500 COLOR STANDARD SOLUTION



Often referred to as the platinum/cobalt color, APHA color, or Hazen color scale, this system is one of the most common standards for the color measurement of liquids.

REAGENTS LIST FOR **ASTM D644 & D2896**



Whether analyzing crude oil or finished lubricants, GFS offers a wide range of laboratory chemicals designed to save you time and money, GFS premixed solvents are designed for ASTM methods such as D664, D2896, D4739, D8045, and D1159.

ASTM D664 TEST METHOD A FOR DETERMINATION OF ACIDIC CONSTITUENTS IN PETROLEUM PRODUCTS & LUBRICANTS.

CATEGORY	DESCRIPTION	ITEM
Premixed Solvent (Toluene/IPA/H ₂ O)	ASTM D664 Solvent Suitable for D974 & D3339	1281
Titration	0.1M Potassium Hydroxide in Isopropyl Alcohol	1972
Titration Standardization	KHP (Potassium Acid Phthalate)	554
CO ₂ Absorber	Soda Lime, Indicating, 4-8 Mesh	3021
Electrode Filling Solution	1M Lithium Chloride in Ethanol	5805
Buffers	pH 4	1634
	pH 7	1639
	pH 10	1645
	4/7/10 Kit. (2) 500 mL bottles of each pH.	2549

ASTM D2896 BASE NUMBER OF PETROLEUM PRODUCTS BY POTENTIOMETRIC PERCHLORIC ACID TITRATION.

CATEGORY	DESCRIPTION	ITEM
Premixed Solvent	ASTM D2896 Solvent Chlorobenzene: Glacial Acetic Acid 2:1 Ratio	9031
Titration	Perchloric Acid in Acetic Acid, 0.1N	71
Titration Standardization	KHP (Potassium Acid Phthalate)	554
	Sodium Acetate in Glacial Acetic Acid, 0.1N	9064
Electrode Filling Solution	Sodium Perchlorate Electrolyte, Saturated	5920
Buffers	pH 4	1634
	pH 7	1639
	p H 10	2548

conostan



an analytichem brand

Conostan Reference Materials

CONOSTAN® is the most recognized and trusted name in oil standards. Beginning more than 40 years ago, the uniquely superior CONOSTAN® product chemistry and proprietary blending techniques set a higher standard for the quality and stability of oil reference materials. This technology was born out of Petroleum industry partnerships and investment, making it ideally suited to meet the needs of key application areas like wear metals analysis, sulfur analysis, lubricant manufacturing, and petrochemical process monitoring.



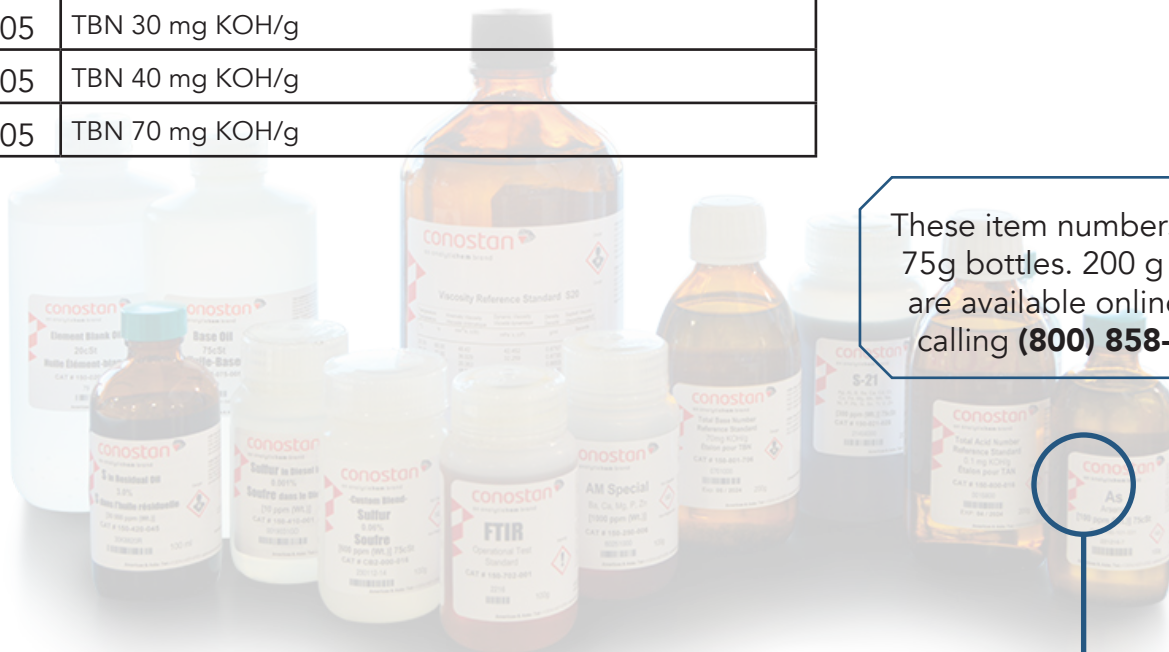
ORDER CONOSTAN MATERIALS TODAY!

150800005	TAN 0.05 mg KOH/g
150800011	TAN 0.1 mg KOH/g
150800051	TAN 0.5 mg KOH/g
150800101	TAN 1 mg KOH/g
150800151	TAN 1.5 mg KOH/g
150800205	TAN 2 mg KOH/g
150800255	TAN 2.5 mg KOH/g
150800305	TAN 3 mg KOH/g
150800455	TAN 4.5 mg KOH/g
150800475	TAN 6.0 mg KOH/g
150800485	TAN 8.0 mg KOH/g
150800465	TAN 10.0 mg KOH/g
150801011	TBN 1 mg KOH/g
150801031	TBN 3 mg KOH/g
150801065	TBN 6 mg KOH/g
150801105	TBN 10 mg KOH/g
150801155	TBN 15 mg KOH/g
150801305	TBN 30 mg KOH/g
150801405	TBN 40 mg KOH/g
150801705	TBN 70 mg KOH/g

The titration curves for every concentration of the **CONOSTAN®** family of **TAN** standards has more prominent inflection points and a wider difference between the starting pH and final pH during titration, in comparison with other suppliers. At minimum concentration for TAN standards, the pH change in the titration curve is now greater than even the highest concentrations of competitive standards. Because the inflection point is more prominent, **CONOSTAN®** TAN standards offer uncertainties less than 1% of stated concentration providing customers the opportunity for better calibration of their titrator and TAN titration method.

CONOSTAN® TBN STANDARDS

Each **CONOSTAN®** TBN standard is formulated to provide a strong leveraging influence on the titration curve creating dramatic and easy to determine inflection points. Concentration uncertainties for TBN are less than 1%.



These item numbers are for 75g bottles. 200 g bottles are available online or by calling **(800) 858-9682**.

Organo-metallic ICP Standards

Conostan® metallo-organic standards are oil-based metal calibration standards for use with ICP, AA, rotrode, XRF, DCP, flame emission and other instruments.

ITEM #	PRODUCT NAME
Metals in Crude Oil	
150451000	METALS IN CRUDE OIL STD 1 (Fe 1, Ni 2, V 2 ppm)
150451005	METALS IN CRUDE OIL STD 2 (Fe 300, Ni 10, V 500 ppm)
150451010	METALS IN CRUDE OIL STD 3 (Fe 500, Ni 100, V 25 ppm)
150451015	METALS IN CRUDE OIL STD 4 (Fe 100, Ni 80, V 250 ppm)
150451020	METALS IN CRUDE OIL STD 5 (Fe 200, Ni 40, V 100 ppm)
150451025	METALS IN CRUDE OIL STD 6 (Fe 400, Ni 5, V 400 ppm)
150451030	METALS IN CRUDE OIL STD 7 (Fe 1, Ni 60, V 300 ppm)
150451035	METALS IN CRUDE OIL STD 8 (Fe 500, Ni 2, V 200 ppm)
150451040	METALS IN CRUDE OIL STD 9 (Fe 100, Ni 100, V 2 ppm)
150451045	METALS IN CRUDE OIL STD 10 (Fe 300, Ni 50, V 250 ppm)
150451050	METALS IN CRUDE OIL STD 11 (Fe 200, Ni 20, V 500 ppm)
150451055	METALS IN CRUDE OIL STD 12 (Fe 50, Ni 100, V 50 ppm)
150451060	METALS IN CRUDE OIL (SET/12)
Metals in Residual Oil	
150421000	METALS IN RESIDUAL OIL STD 1 (Fe 1, Ni 2, V 5 ppm)
150421005	METALS IN RESIDUAL OIL STD 2 (Fe 300, Ni 10, V 500 ppm)
150421010	METALS IN RESIDUAL OIL STD 3 (Fe 500, Ni 100, V 25 ppm)
150421015	METALS IN RESIDUAL OIL STD 4 (Fe 100, Ni 80, V 250 ppm)
150421020	METALS IN RESIDUAL OIL STD 5 (Fe 200, Ni 40, V 100 ppm)
150421025	METALS IN RESIDUAL OIL STD 6 (Fe 400, Ni 5, V 400 ppm)
150421030	METALS IN RESIDUAL OIL STD 7 (Fe 1, Ni 60, V 300 ppm)
150421035	METALS IN RESIDUAL OIL STD 8 (Fe 500, Ni 2, V 200 ppm)
150421040	METALS IN RESIDUAL OIL STD 9 (Fe 100, Ni 100, V 5 ppm)
150421045	METALS IN RESIDUAL OIL STD 10 (Fe 300, Ni 50, V 250 ppm)
150421050	METALS IN RESIDUAL OIL STD 11 (Fe 200, Ni 20, V 500 ppm)
150421055	METALS IN RESIDUAL OIL STD 12 (Fe 50, Ni 100, V 50 ppm)
150421060	METALS IN RESIDUAL OIL (SET/12)

IDEAL FOR:

Machinery Condition Monitoring, Lubricant Manufacturing, Crude Oil Refining.



ITEM #	PRODUCT NAME
S 21 Series	
150021016	CONOSTAN STANDARD S-21, 0.5 ppm
150021017	CONOSTAN STANDARD S-21, 1 ppm
150021021	CONOSTAN STANDARD S-21, 2 ppm
150021026	CONOSTAN STANDARD S-21, 3 ppm
150021029	CONOSTAN STANDARD S-21, 5 ppm
150021018	CONOSTAN STANDARD S-21, 10 ppm
150021022	CONOSTAN STANDARD S-21, 20 ppm
150021024	CONOSTAN STANDARD S-21, 25 ppm
150021027	CONOSTAN STANDARD S-21, 30 ppm
150021030	CONOSTAN STANDARD S-21, 50 ppm
150021032	CONOSTAN STANDARD S-21, 60 ppm
150021019	CONOSTAN STANDARD S-21, 100 ppm
150021020	CONOSTAN STANDARD S-21, 150 ppm
150021023	CONOSTAN STANDARD S-21, 200 ppm
150021025	CONOSTAN STANDARD S-21, 250 ppm
150021028	CONOSTAN STANDARD S-21, 300 ppm
150021031	CONOSTAN STANDARD S-21, 500 ppm
150021033	CONOSTAN STANDARD S-21, 600 ppm
150021034	CONOSTAN STANDARD S-21, 700 ppm
150021035	CONOSTAN STANDARD S-21, 900 ppm
S 21+ Series	
150021050	CONOSTAN STANDARD S-21+K, 1 ppm
150021051	CONOSTAN STANDARD S-21+K, 10 ppm
150021054	CONOSTAN STANDARD S-21+K, 25 ppm
150021056	CONOSTAN STANDARD S-21+K, 30 ppm
150021105	CONOSTAN STANDARD S-21+K, 40 ppm
150021058	CONOSTAN STANDARD S-21+K, 50 ppm
150021060	CONOSTAN STANDARD S-21+K, 75 ppm
150021052	CONOSTAN STANDARD S-21+K, 100 ppm
150021053	CONOSTAN STANDARD S-21+K, 200 ppm
150021055	CONOSTAN STANDARD S-21+K, 250 ppm
150021057	CONOSTAN STANDARD S-21+K, 300 ppm
150021059	CONOSTAN STANDARD S-21+K, 500 ppm
150021061	CONOSTAN STANDARD S-21+K, 885 ppm

Packages in 100g bottles are available online for most of these items, or by calling **(800) 858-9682**.

Base Elements in S-21:
 Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, Zn.



ITEM #	PRODUCT NAME
150021094	CONOSTAN STANDARD S-21+Sb, 10 ppm
150021095	CONOSTAN STANDARD S-21+Sb, 100 ppm
150021096	CONOSTAN STANDARD S-21+Sb, 30 ppm
150021097	CONOSTAN STANDARD S-21+Sb, 300 ppm
150021098	CONOSTAN STANDARD S-21+Sb, 50 ppm
150021099	CONOSTAN STANDARD S-21+Sb, 500 ppm
150021100	CONOSTAN STANDARD S-21+Sb, 888 ppm
150021074	CONOSTAN STANDARD S-21+K+Sb, 10 ppm
150021075	CONOSTAN STANDARD S-21+K+Sb, 100 ppm
150021076	CONOSTAN STANDARD S-21+K+Sb, 30 ppm
150021077	CONOSTAN STANDARD S-21+K+Sb, 300 ppm
150021078	CONOSTAN STANDARD S-21+K+Sb, 50 ppm
150021079	CONOSTAN STANDARD S-21+K+Sb, 500 ppm
150021080	CONOSTAN STANDARD S-21+K+Sb, 875 ppm
150021081	CONOSTAN STANDARD S-21+K+Sb+Sr, 10 ppm
150021083	CONOSTAN STANDARD S-21+Li, 30 ppm
150021082	CONOSTAN STANDARD S-21+Li, 100 ppm
150021084	CONOSTAN STANDARD S-21+Li, 300 ppm
150021085	CONOSTAN STANDARD S-21+Li, 500 ppm
150021086	CONOSTAN STANDARD S-21+Li, 830 ppm
150021446	CONOSTAN STANDARD S-21+K+Li, 100 ppm
150021064	CONOSTAN STANDARD S-21+K+Li, 500 ppm
150021065	CONOSTAN STANDARD S-21+K+Li, 815 ppm
150021066	CONOSTAN STANDARD S-21+K+Li+Sb, 100 ppm
150021037	CONOSTAN STANDARD S-21+Be+K+Li+Sb, 30 ppm
150021036	CONOSTAN S-21+Be+K+Li+Sb, 100 ppm
150021106	CONOSTAN STANDARD S-21+ Be @ 762 ppm, 100 G



ITEM #	PRODUCT NAME
150021341	CONOSTAN STANDARD S-21+ As+Be 100 ppm
150021103	CONOSTAN STANDARD S-21+W, 3 ppm
150021102	CONOSTAN STANDARD S-21+W, 10 ppm
150021041	CONOSTAN STANDARD S-21+In+W, 100 ppm
150021101	CONOSTAN STANDARD S-21+Sb+W, 10 ppm, 100 g
150021038	CONOSTAN STANDARD S-21+In+K, 10 ppm
150021040	CONOSTAN STANDARD S-21+In+K, 30 ppm
150021039	CONOSTAN STANDARD S-21+In+K, 100 ppm
S 12 Series	
150012009	CONOSTAN S-12 STANDARD, 10 ppm
150012012	CONOSTAN S-12 STANDARD, 30 ppm
150012014	CONOSTAN S-12 STANDARD, 50 ppm
150012010	CONOSTAN S-12 STANDARD, 100 ppm
150012011	CONOSTAN S-12 STANDARD, 250 ppm
150012013	CONOSTAN S-12 STANDARD, 300 ppm
150012015	CONOSTAN S-12 STANDARD, 500 ppm
150012016	CONOSTAN S-12 STANDARD, 900 ppm
S 12+ Series	
150012017	CONOSTAN STANDARD S-12+K, 300 ppm
150012019	CONOSTAN STANDARD S-12+Mo, 10 ppm
150012022	CONOSTAN STANDARD S-12+Mo, 25 ppm
150012024	CONOSTAN STANDARD S-12+Mo, 30 ppm
150012026	CONOSTAN STANDARD S-12+Mo, 50 ppm
150012020	CONOSTAN STANDARD S-12+Mo, 100 ppm
150012021	CONOSTAN STANDARD S-12+Mo, 200 ppm
150012023	CONOSTAN STANDARD S-12+Mo, 250 ppm
150012025	CONOSTAN STANDARD S-12+Mo, 300 ppm
150012027	CONOSTAN STANDARD S-12+Mo, 500 ppm
150012028	CONOSTAN STANDARD S-12+Mo, 879 ppm

The Conostan®5-12 series contains the following elements:
S-12: Ag, Al, Cr, Cu, Fe, Mg, Na, Ni, Pb, Si, Sn, Ti.



ITEM #	PRODUCT NAME
Single Element	
100PPM (S.E.) ORGANOMETALLIC	
150101331	CONOSTAN 100 ppm STANDARD, As (75CST)
150101341	CONOSTAN 100 ppm STANDARD, Se (75CST)
150101801	CONOSTAN 100 ppm STANDARD, Hg (75CST)
150103801	CONOSTAN 100 ppm STANDARD, Hg (20 CST)
1000PPM (S.E.) ORGANOMETALLIC (20CST)	
150100475	CONOSTAN 1,000 ppm STANDARD, Ag
150100135	CONOSTAN 1,000 ppm STANDARD, Al
150100335	CONOSTAN 1,000 ppm STANDARD, As
150100055	CONOSTAN 1,000 ppm STANDARD, B
150100565	CONOSTAN 1,000 ppm STANDARD, Ba
150100045	CONOSTAN 1,000 ppm STANDARD, Be
150100835	CONOSTAN 1,000 ppm STANDARD, Bi
150100205	CONOSTAN 1,000 ppm STANDARD, Ca
150100485	CONOSTAN 1,000 ppm STANDARD, Cd
150100585	CONOSTAN 1,000 ppm STANDARD, Ce
150100275	CONOSTAN 1,000 ppm STANDARD, Co
150100245	CONOSTAN 1,000 ppm STANDARD, Cr
150100295	CONOSTAN 1,000 ppm STANDARD, Cu
150100265	CONOSTAN 1,000 ppm STANDARD, Fe
150100805	CONOSTAN 1,000 ppm STANDARD, Hg
150100495	CONOSTAN 1,000 ppm STANDARD, In
150100195	CONOSTAN 1,000 ppm STANDARD, K
150100575	CONOSTAN 1,000 ppm STANDARD, La
150100035	CONOSTAN 1,000 ppm STANDARD, Li
150100125	CONOSTAN 1,000 ppm STANDARD, Mg
150100255	CONOSTAN 1,000 ppm STANDARD, Mn
150100425	CONOSTAN 1,000 ppm STANDARD, Mo
150100115	CONOSTAN 1,000 ppm STANDARD, Na
150100285	CONOSTAN 1,000 ppm STANDARD, Ni
150100155	CONOSTAN 1,000 ppm STANDARD, P
150100825	CONOSTAN 1,000 ppm STANDARD, Pb
150100515	CONOSTAN 1,000 ppm STANDARD, Sb



ITEM #	PRODUCT NAME
150100145	CONOSTAN 1,000 ppm STANDARD, Si
150100505	CONOSTAN 1,000 ppm STANDARD, Sn
150100385	CONOSTAN 1,000 ppm STANDARD, Sr
150100225	CONOSTAN 1,000 ppm STANDARD, Ti
150100815	CONOSTAN 1,000 ppm STANDARD, Tl
150100235	CONOSTAN 1,000 ppm STANDARD, V
150100745	CONOSTAN 1,000 ppm STANDARD, W
150100395	CONOSTAN 1,000 ppm STANDARD, Y
150100305	CONOSTAN 1,000 ppm STANDARD, Zn
150100405	CONOSTAN 1,000 ppm STANDARD, Zr
1,000 PPM S.E. ORGANOMETALLIC (75CST)	
150102205	CONOSTAN 1,000 ppm STANDARD, Ca 75 CST
150102295	CONOSTAN 1,000 ppm STANDARD, Cu 75 CST
150101805	CONOSTAN 1,000 ppm STANDARD, Hg 75CST
150102195	CONOSTAN 1,000 ppm STANDARD, K 75 CST
150102125	CONOSTAN 1,000 ppm STANDARD, Mg 75 CST
150102285	CONOSTAN 1,000 ppm STANDARD, Ni 75 CST
150102155	CONOSTAN 1,000 ppm STANDARD, P 75 CST
150102825	CONOSTAN 1,000 ppm STANDARD, Pb 75 CST
150102305	CONOSTAN 1,000 ppm STANDARD, Zn 75 CST
5,000 PPM (S.E) ORGANOMETALLIC (20CST)	
150500475	CONOSTAN 5,000 ppm STANDARD, Ag
150500135	CONOSTAN 5,000 ppm STANDARD, Al
150500055	CONOSTAN 5,000 ppm STANDARD, B
150500565	CONOSTAN 5,000 ppm STANDARD, Ba
150500045	CONOSTAN 5,000 ppm STANDARD, Be
150500835	CONOSTAN 5,000 ppm STANDARD, Bi
150500205	CONOSTAN 5,000 ppm STANDARD, Ca
150500485	CONOSTAN 5,000 ppm STANDARD, Cd
150500585	CONOSTAN 5,000 ppm STANDARD, Ce
150500275	CONOSTAN 5,000 ppm STANDARD, Co
150500245	CONOSTAN 5,000 ppm STANDARD, Cr



ITEM #	PRODUCT NAME
150500295	CONOSTAN 5,000 ppm STANDARD, Cu
150500265	CONOSTAN 5,000 ppm STANDARD, Fe
150500495	CONOSTAN 5,000 ppm STANDARD, In
150500195	CONOSTAN 5,000 ppm STANDARD, K
150500575	CONOSTAN 5,000 ppm STANDARD, La
150500035	CONOSTAN 5,000 ppm STANDARD, Li
150500125	CONOSTAN 5,000 ppm STANDARD, Mg
150500255	CONOSTAN 5,000 ppm STANDARD, Mn
150500425	CONOSTAN 5,000 ppm STANDARD, Mo
150500115	CONOSTAN 5,000 ppm STANDARD, Na
150500285	CONOSTAN 5,000 ppm STANDARD, Ni
150500155	CONOSTAN 5,000 ppm STANDARD, P
150500825	CONOSTAN 5,000 ppm STANDARD, Pb
150500515	CONOSTAN 5,000 ppm STANDARD, Sb
150500215	CONOSTAN 2000PPM STANDARD, Sc
150500145	CONOSTAN 5,000 ppm STANDARD, Si
150500505	CONOSTAN 5,000 ppm STANDARD, Sn
150500385	CONOSTAN 5,000 ppm STANDARD, Sr
150500225	CONOSTAN 5,000 ppm STANDARD, Ti
150500815	CONOSTAN 5,000 ppm STANDARD, Tl
150500235	CONOSTAN 5,000 ppm STANDARD, V
150500745	CONOSTAN 5,000 ppm STANDARD, W
150500395	CONOSTAN 5,000 ppm STANDARD, Y
150500305	CONOSTAN 5,000 ppm STANDARD, Zn
150500405	CONOSTAN 5,000 ppm STANDARD, Zr
3% INTERNAL STANDARDS	
150502001	COBALT INTERNAL STANDARD, 3%, 100 g
150502391	YTTRIUM INTERNAL STANDARD, 3%, 100 g

Conostan single element standards are packaged in 50g bottles unless noted.

Sulfur in Oil Standards



Conostan® is one of the most recognized and trusted names in oil standards. For use with XRF or UVF, the sulfur in oil line provides various matrices and concentrations to support matrix matching and compliance with industry methods.

ITEM #	PRODUCT NAME
SULFUR IN BIODIESEL	
150440000	SULFUR IN B5 BD STD, BLANK MATRIX
150440005	SULFUR IN B5 BIODIESEL STD, 5 ppm
150440010	SULFUR IN B5 BIODIESEL STD, 10 ppm
150440015	SULFUR IN B5 BIODIESEL STD, 15 ppm
150440020	SULFUR IN B5 BIODIESEL STD, 30 ppm
150440025	SULFUR IN B5 BIODIESEL STD, 50 ppm
150440030	SULFUR IN B5 BIODIESEL STD, 75 ppm
150440035	SULFUR IN B5 BIODIESEL STD, 100 ppm
150440040	SULFUR IN B5 BIODIESEL STD, 200 ppm
150440045	SULFUR IN B5 BIODIESEL STD, 500 ppm
150440050	SULFUR IN B20 BD STD, BLANK MATRIX
150440055	SULFUR IN B20 BIODIESEL STD, 5 ppm
150440060	SULFUR IN B20 BIODIESEL STD, 10 ppm
150440065	SULFUR IN B20 BIODIESEL STD, 15 ppm
150440070	SULFUR IN B20 BIODIESEL STD, 30 ppm
150440075	SULFUR IN B20 BIODIESEL STD, 50 ppm
150440080	SULFUR IN B20 BIODIESEL STD, 75 ppm
150440085	SULFUR IN B20 BIODIESEL STD, 100 ppm
150440090	SULFUR IN B20 BIODIESEL STD, 200 ppm
150440095	SULFUR IN B20 BIODIESEL STD, 500 ppm
150440100	SULFUR IN B100 BD STD, BLANK MATRIX
150440110	SULFUR IN B100 BIODIESEL STD, 10 ppm
150440115	SULFUR IN B100 BIODIESEL STD, 15 ppm
150440120	SULFUR IN B100 BIODIESEL STD, 30 ppm
150440125	SULFUR IN B100 BIODIESEL STD, 50 ppm
150440130	SULFUR IN B100 BIODIESEL STD, 75 ppm
150440135	SULFUR IN B100 BIODIESEL STD, 100 ppm
150440140	SULFUR IN B100 BIODIESEL STD, 200 ppm
150440145	SULFUR IN B100 BIODIESEL STD, 500 ppm



ITEM #	PRODUCT NAME
SULFUR IN CRUDE OIL	
150450100	SULFUR IN CRUDE OIL, 500 ppm
150450105	SULFUR IN CRUDE OIL, 1000 ppm
150450120	SULFUR IN CRUDE OIL, 1500 ppm
150450110	SULFUR IN CRUDE OIL, 2500 ppm
150450115	SULFUR IN CRUDE OIL, 5000 ppm
150450125	SULFUR IN CRUDE OIL, 10,000 ppm
150450130	SULFUR IN CRUDE OIL, 20,000 ppm
150450135	SULFUR IN CRUDE OIL, 30,000 ppm
150450140	SULFUR IN CRUDE OIL, 40,000 ppm
150450145	SULFUR IN CRUDE OIL, 50,000 ppm
SULFUR IN DIESEL FUEL	
150410008	CONOSTAN S IN DIESEL FUEL STD, 5 ppm
150410001	CONOSTAN S IN DIESEL FUEL STD, 10 ppm
150410005	CONOSTAN S IN DIESEL FUEL STD, 15 ppm
150410013	CONOSTAN S IN DIESEL FUEL STD, 25 ppm
150410009	CONOSTAN S IN DIESEL FUEL STD, 50 ppm
150410014	CONOSTAN S IN DIESEL FUEL STD, 75 ppm
150410002	CONOSTAN S IN DIESEL FUEL STD, 100 ppm
150410015	CONOSTAN S IN DIESEL FUEL STD, 200 ppm
150410016	SULFUR IN DIESEL FUEL STD, 300 ppm
150410017	CONOSTAN S IN DIESEL FUEL STD, 400 ppm
150410010	CONOSTAN S IN DIESEL FUEL STD, 500 ppm
150410018	CONOSTAN S IN DIESEL FUEL STD, 750 ppm
150410003	CONOSTAN S IN DIESEL FUEL STD, 1000 ppm
150410019	CONOSTAN S IN DIESEL FUEL STD, 1500 ppm
150410020	CONOSTAN S IN DIESEL FUEL STD, 3000 ppm
150410011	CONOSTAN S IN DIESEL FUEL STD, 5000 ppm
150410021	CONOSTAN S IN DIESEL FUEL STD, 7500 ppm
150410004	CONOSTAN S IN DIESEL FUEL STD, 10000 ppm
150410006	CONOSTAN S IN DIESEL FUEL STD, 15000 ppm
150410007	CONOSTAN S IN DIESEL FUEL STD, 20,000 ppm
150410022	CONOSTAN S IN DIESEL FUEL STD, 30,000 ppm
150410023	CONOSTAN S IN DIESEL FUEL STD, 40,000 ppm
150410024	SULFUR IN DIESEL FUEL STD, 50,000 ppm
150410012	CONOSTAN BLANK SULFUR DIESEL FUEL

ITEM #	PRODUCT NAME
SULFUR IN ISOCTANE	
150430108	CONOSTAN S IN ISOCTANE 5 ppm
150430109	CONOSTAN S IN ISOCTANE 10 ppm
150430102	CONOSTAN S IN ISOCTANE 50 ppm
150430103	CONOSTAN S IN ISOCTANE 100 ppm
150430104	CONOSTAN S IN ISOCTANE 250 ppm
150430105	CONOSTAN S IN ISOCTANE 500 ppm
150430106	CONOSTAN S IN ISOCTANE 750 ppm
150430107	CONOSTAN S IN ISOCTANE 1000 ppm
150430010	CONOSTAN VERY LOW SULFUR IN ISO UV SET
150430020	CONOSTAN LOW SULFUR IN ISOCTANE UV SET
150430030	CONOSTAN HIGH SULFUR IN ISOCTANE UV SET
150430100	CONOSTAN HIGH SULFUR IN ISOCTANE SET
150430101	CONOSTAN S IN ISOCTANE BLANK, 60 mL
150430110	CONOSTAN S IN ISOCTANE BLANK, 100 mL
SULFUR IN MINERAL OIL	
150400001	CONOSTAN SULFUR, 0.001% (10 ppm)
150400006	CONOSTAN SULFUR, 0.002% (20 ppm)
150400009	CONOSTAN SULFUR, 0.0025% (25 ppm)
150400018	CONOSTAN SULFUR, 0.005% (50 ppm)
150400022	CONOSTAN SULFUR, 0.0075% (75 ppm)
150400002	CONOSTAN SULFUR, 0.01% (100 ppm)
150400007	CONOSTAN SULFUR, 0.0200% (200 ppm)
150400010	CONOSTAN SULFUR, 0.025% (250 ppm)
150400013	CONOSTAN SULFUR, 0.03% (300 ppm)
150400019	CONOSTAN SULFUR, 0.050% (500 ppm)
150400023	CONOSTAN SULFUR, 0.075% (750 ppm)
150400003	CONOSTAN SULFUR, 0.100% (1,000 ppm)
150400011	CONOSTAN SULFUR, 0.25% (2,500 ppm)
150400020	CONOSTAN SULFUR, 0.500% (5,000 ppm)
150400024	CONOSTAN SULFUR, 0.750% (7,500 ppm)
150400004	CONOSTAN SULFUR, 1.00% (10,000 ppm)
150400005	CONOSTAN SULFUR, 1.5% (15,000 ppm)
150400008	CONOSTAN SULFUR, 2.00% (20,000 ppm)
150400012	CONOSTAN SULFUR, 2.5% (25,000 ppm)
150400014	CONOSTAN SULFUR, 3.00% (30,000 ppm)

ITEM #	PRODUCT NAME
SULFUR IN MINERAL OIL	
150400015	CONOSTAN SULFUR, 3.5% (35,000 ppm)
150400016	CONOSTAN SULFUR, 4.00% (40,000 ppm)
150400017	CONOSTAN SULFUR, 4.5% (45,000 ppm)
150400021	CONOSTAN SULFUR, 5.00% (50,000 ppm)
150400025	CONOSTAN SULFUR BLANK OIL, 100 g
150400027	CONOSTAN SULFUR BLANK OIL, Gallon
SULFUR IN RESIDUAL OIL	
150420100	SULFUR IN RESIDUAL OIL, 2,500 ppm
150420105	SULFUR IN RESIDUAL OIL, 3,500 ppm
150420110	SULFUR IN RESIDUAL OIL, 5,000 ppm
150420120	SULFUR IN RESIDUAL OIL, 7,500 ppm
150420125	SULFUR IN RESIDUAL OIL, 10,000 ppm
150420130	SULFUR IN RESIDUAL OIL, 15,000 ppm
150420135	SULFUR IN RESIDUAL OIL, 20,000 ppm
150420140	SULFUR IN RESIDUAL OIL, 25,000 ppm
150420145	SULFUR IN RESIDUAL OIL, 30,000 ppm
150420150	SULFUR IN RESIDUAL OIL, 35,000 ppm
150420155	SULFUR IN RESIDUAL OIL, 40,000 ppm
150420160	SULFUR IN RESIDUAL OIL, 50,000 ppm

Residual Oil, a by-product of crude oil distillation, is often referred to as Fuel Oil (n° 5, n° 6, Bunker B or Bunker C) and serves as the fuel for many marine engines and industrial furnaces. Conostan® offers a wide range of standards in a true residual oil-based matrix to ensure performance in XRF and other applications.

Chlorine in Oil

The chlorine in oil products are designed for calibration of XRF, ICP, and analytical instruments. Stocked concentrations are shown in the table below. Other concentrations are available as custom blends.

ITEM #	PRODUCT NAME
150200008	CONOSTAN CL BLANK OIL
150200001	CONOSTAN CL STANDARD, 0.001% (10 ppm)
150200002	CONOSTAN CL STANDARD, 0.01% (100 ppm)
150200003	CONOSTAN CL STANDARD, 0.1% (1000 ppm)
150200005	CONOSTAN CL STANDARD, 0.05% (500 ppm)
150200006	CONOSTAN CL STANDARD, 0.5% (5000 ppm)
150200004	CONOSTAN CL STANDARD, 1.0 % (10,000 ppm)
150200007	CONOSTAN CL STANDARD, 5.0% (50,000 ppm)



Flash Point Standards

Flash Point Standards are used to verify laboratory flash point instruments that are used to test petroleum products. These standards are for use in accordance with ASTM D93, ISO 2719 & IP 34. Complete with a detailed Certificate of Analysis

ITEM #	PRODUCT NAME
150900000	FLASH POINT STANDARD (D93-53°C)
150900005	FLASH POINT STANDARD (D93-69°C)
150900010	FLASH POINT STANDARD (D93-81°C)
150900015	FLASH POINT STANDARD (D93-104°C)
150900020	FLASH POINT STANDARD (D93-112°C)
150900025	FLASH POINT STANDARD (D93-116°C)
150900030	FLASH POINT STANDARD (D93-134°C)
150900035	FLASH POINT STANDARD (D93-186°C)
150900100	FLASH POINT STANDARD (D93-205°C)
150900040	FLASH POINT STANDARD (D93-231°C)
150900045	FLASH POINT STANDARD (D93-244°C)



The flash point of a material is the lowest temperature at which it gives off sufficient vapor to ignite when exposed to a flame.

About GFS Chemicals



About GFS Chemicals

GFS Chemicals is a U.S. based manufacturer of specialty and fine chemicals serving customers worldwide since 1928. As an ISO 9001:2015 manufacturer, GFS Chemicals manufactures ACS - and reagent-grade materials including high-purity trace metal acids and salts, AA and ICP standards, dyes, indicators, inorganic and organic fine chemicals, turbidity standards, and other common laboratory reagents. Additionally, GFS Chemicals manufactures its own line of high-quality Karl Fischer reagents that covers both volumetric and coulometric applications, and ISO 17025:2017 NIST-traceable water standards.

Facilities

GFS Chemicals maintains three manufacturing sites in Columbus, Ohio. Each specializes in either organic, inorganic, or laboratory reagent manufacturing. The ppt acids are bottled, labeled, and packaged in a Class 100 environment.

Markets Served

GFS Chemicals is committed to providing the best products at the right price. Our technical staff works to understand the challenges scientist face, and delivers custom solutions and products to meet their needs. GFS Chemicals has delivered results in demanding markets such as: food, pharmaceutical, environmental, electronics, clinical, energy, flavors & fragrances, agrichemicals, pet ochemicals, water, cannabis, and many more. From research laboratory to pilot plant, GFS Chemicals is here for you.



GFS
CHEMICALS®

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