

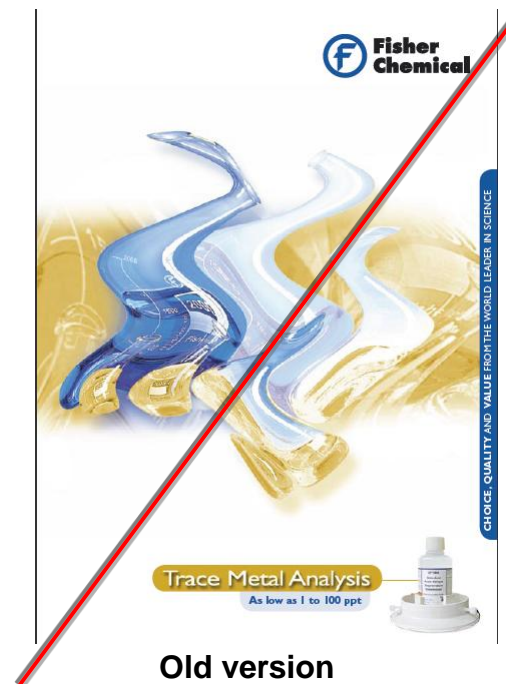
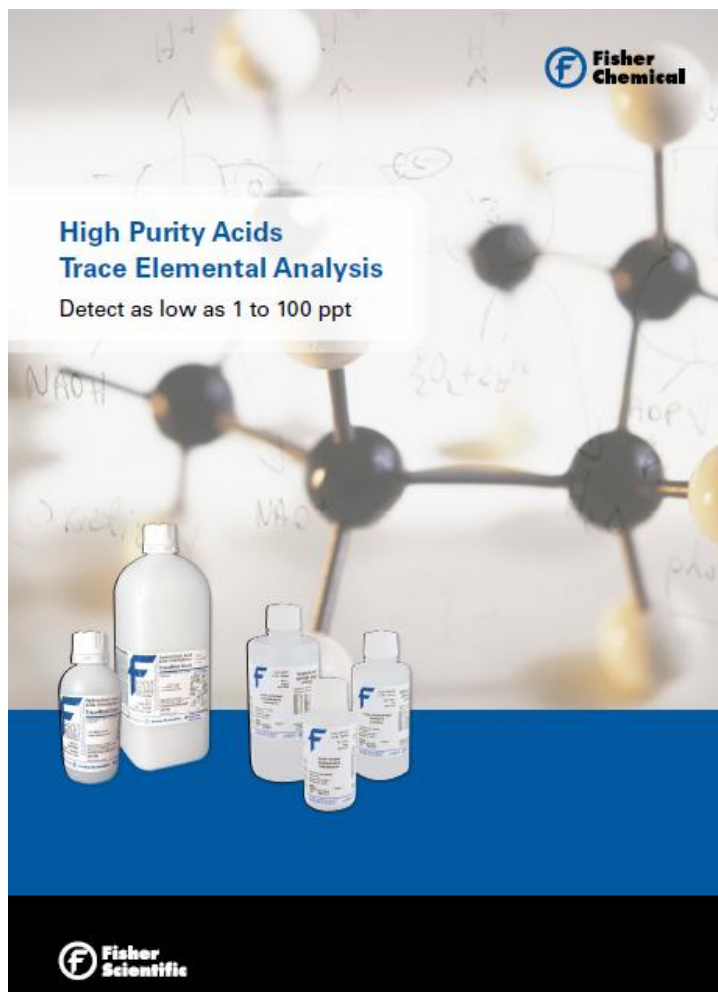
## Fisher Chemical

# ● High Purity Acids – Trace Elemental Analysis

## Global Chemicals

Véronique Moreau  
Marketing Manager-Continental Europe & Export

# High Purity Acids- Trace Elemental brochure

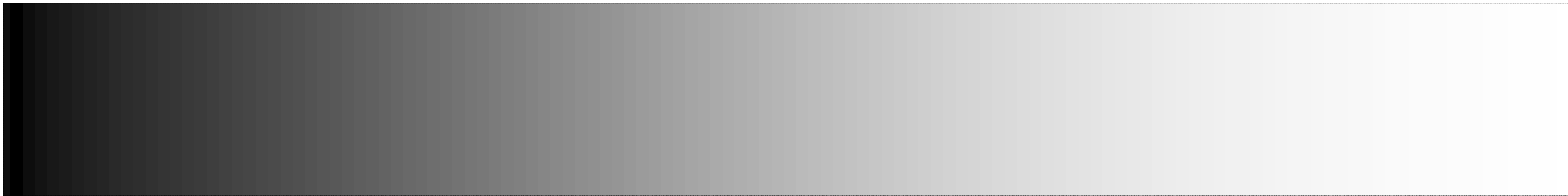


- Updated Brochures printed ( only in english language ) launched March 2012



## • Relative Acid Purity Scale (Trace Metals)

%                      ppm                      ppb                      ppt                      ppq



**Technical  
SLR extra-  
pure  
Gross  
Contamination**

**For Analysis**  
Certified elements ppm  
**Primar Plus**  
1-10 ppb level

**Fisher Chemical  
Trace Metal**  
65 elements  
Very low ppb level

**Fisher Chemical  
Optima**  
65 elements  
<10ppt level

# Fisher Chemical Acids for Traces Elemental analysis

- Fisher Chemical Optima® Grade :**  
Highest purity level

tested up 65 parameters by ICP-MS

**As low as 100 ppt level detection with critical impurities specified at 10 ppt level**

bottled in class 10 clean room condition

**pre-cleaned Teflon FEP & PFA ( HCl & HF)**

individually double bagged in class 100 clean room

each bottle is packaged individually with CoA



ICP-MS



- Fisher Trace Metal® Grade**

tested up 65 parameters by ICP-MS

**Certified below one ppb level with key impurities specified at 0.1ppb level**

**Poly bottle HDPE bottle**

bottled in class 10 clean room condition



ICP  
& ICP-MS



A508-P500 and A508-P212



- Fisher Primar Plus® Grade :**

tested up to 40 parameters by ICP at **1 to 10 ppb**

**HDPE bottle**



AAS

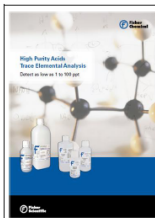




# Trace Elemental Analysis Fisher Chemical

## Application and Targets Markets


- Environmental Test Labs
- Drinking Water and Waste Water
- Semiconductor Fabrication QC
- Oil and Gas QC
- Agriculture – soil and plant tissue
- Geological & Earth Science Labs
- Pharmaceutical QC
- Food and Beverage QC
- University Science Labs .....

## PIP DOCUMENT



Does your customer want to improve the detection limits?

ICP-MS  
ICP &  
AAS



Product Line  
Fisher Chemical –High Purity Acids for Trace Elemental Analysis  
Supplier  
Global Chemicals  
What is it?  
Fisher Chemical offer a complete line of acids grades to meet the most challenging multi-element analysis applications.  
Product Features & Benefits

- Optima Acids (1-100ppt) – Lowest metal content, Highest purity
- Trace Metal Acids (0.1-1 ppb) – Superior purity, exceptional value
- Primar Plus (1-10 ppb) – Perfect choice for routine
- For Analysis, AR (low CD, Pb & Hg level)

Offering the premium packaging that provides :


- ✓ Safety & sustainable product quality
- ✓ Less weight and more convenience

Where to Sell

Anywhere trace metal analysis is required :  
Environmental, Food / Beverage , Semiconductor & Pharmaceutical  
Look for: Test labs & Quality Control

Selling Solution Opportunities

Fisher Chemical range : Trace metal-ppb level  
Acids & Water



AAS  
Thermo Scientific  
Elemental range of instruments

# Trace Elemental Analysis Fisher Chemical

## Key questions

- Which kind of equipment do you use to analyze the metals trace or residue of analysis?
- What kind of impurities and metals impurities do you analyse?
- What is the purity level of reagents required ppt ,one ppb or less ?
- Which reagents do you use for sample preparation analysis and the calibration?

## PIP DOCUMENT

**Key Information**  
 GMPs at List Items  
 Vendor #: Global Chemicals  
 CDC: 33  
 VMA: Type Here  
 Category:  
 Chemical  
 Platinum Supplier  
 Fisher Manufactured  
 Exclusive  
 General Distribution  
 Stock:  
 Fisher Stock  
 Direct Ship  
 Specialist Support  
 Life Science  
 Chemical  
 Service Responsibility  
 Fisher  
 Manufacturer

**Key Fisher Contacts**  
**Key Supplier Contacts**  
 View More  
 Mark Clements

**Customer Service:**  
 Peggy Allen  
 Phone number: + 32 14 57 52 11  
 Email: [fisherchemical@thermofisher.com](mailto:fisherchemical@thermofisher.com)  
 Web Site:  
[www.acros.com](http://www.acros.com)

**Support Materials**  
 Literature  
 EN 2  
 Samples  
 Global Chemicals Area Managers  
 Demos  
 n/a  
 Technical bulletins  
 n/a  
 Other as needed  
 n/a

**Competition**

Product Name	Vendor	Lot Number	Grade	Form	Weight	Net Weight	Net Content	Net Weight	Net Content
Trace metal analysis reagent	Acros	15750	Trace	100 mg	0.1000 g	0.1000 g	0.1000 g	0.1000 g	0.1000 g
Trace metal analysis reagent	Acros	15750	Trace	100 mg	0.1000 g	0.1000 g	0.1000 g	0.1000 g	0.1000 g

**Why Should You Sell?**  
 Major applications using Acids  
 • Trace Metal Instrument Analysis  
 • Preparation of Blank and Calibration Solutions  
 • Pre-measuring instrument cleaning  
 • Sample Preparation  
 • Digestion of solid samples  
 • Dilution of liquid samples  
 • Preservation (acidification) of samples

**Uncover the Need**  
 • Do you do Trace Metal Elemental Analysis?  
 • Part-per-billion or part-per-trillion level analysis?  
 • Flame or Graphite Furnace Atomic Absorption?  
 • ICP-OES or ICP-MS?  
 • Microwave Sample Digestion requirements

**Support Materials**

Product Name	Part No.	Net Weight (g)	Net Content (g)	Net Weight (g)	Net Content (g)	Net Weight (g)	Net Content (g)
Trace metal analysis reagent	15750	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
Trace metal analysis reagent	15750	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000

# Competition Table overview

<b>ANALYTICAL APPLICATION</b>	<b>FISHER</b>	<b>JT BAKER</b>	<b>CARLO ERBA-SDS</b>	<b>VWR Prolabo-BDH</b>	<b>MERCK</b>	<b>SAF</b>	<b>SAF-FLUKA</b>	<b>PANREAC</b>
<b>Ultra Traces metal analysis by ICP-MS</b>	OPTIMA	ULTREX	ULTRAPUR	No	ULTRAPUR		TraceSelect Ultra	Hiperpur Plus
<b>Traces metal analysis by AAS &amp; ICP</b>	TRACE METAL & PRIMAR Plus	Baker Instra Analyzed	SUPERPUR	NORMATOM ARISTAR	SUPRAPUR	ENVISOL	TraceSelect	Hiperpur Analpur
<b>For Analysis - P.A AR</b>	<u>CertiFied AR</u>	Baker-Analyzed	RPE Carlo PUREX SDS	ANALAR NORMAPUR	For analysis, EMSURE	For analysis	PURISS PA	P.A

# Fisher Chemical Product overview table

Description	Pack size	Optima as low as 1-100 ppt level detection		Trace Metal 1 ppb level detection	Primar Plus 1-10 ppb level detection	For Analysis, AR (low cadmium, lead and mercury level)
		Old catalog number	New catalog number			
Acetic Acid Glacial	250mL	A/0415/07	A465-250			
	500mL	A/0415/08	A465-500	A507-P500	A/0411/PB08	
	1L	A/0415/15	A465-1	A507-P1	A/0418/PB15	
	2.5L			A507-P212	A/0411/PB17	
Ammonia Solution	250mL	A/3365/07	A470-250			
	500mL	A/3365/08	A470-500	A512-P500		
	1L	A/3365/15	A470-1			
Hydrobromic Acid	500mL	H/0955/08	A471-500			
Hydrochloric Acid	250mL	H/1205/07	A466-250			
	500mL	H/1205/08	A466-500	A508-P500	H/1196/PB08	
	1L	H/1205/15	A466-1	A508-P1	H/1196/PB15	H/1020/PB15* H/1180/PB15**
	2.5L			A508-P212	H/1196/PB17	H/1020/PB17* H/1180/PB17**
Hydrogen Peroxide	500mL	H/1830/08	P170-500			
Nitric Acid	250mL	N/2275/07	A467-250			
	500mL	N/2275/08	A467-500	A509-P500	N/2272/PB08	
	1L	N/2275/15	A467-1	A509-P1	N/2272/PB15	N/2320/PB15
	2.5L			A509-P212	N/2272/PB17	N/2320/PB17
Perchloric Acid	250mL	P/1295/07	A469-250			
	500mL	P/1295/08	A469-500	A511-P500	P/1292/PB08	
	1L	P/1295/15	A469-1	A511-P1	P/1292/PB15	
	2.5L			A511-P212		
Sulfuric Acid	250mL	S/9225/07	A468-250			
	500mL	S/9225/08	A468-500	A510-P500	S/9231/PB08	
	1L	S/9225/15	A468-1	A510-P1	S/9231/PB15	S/9220/PB15
	2.5L			A510-P212	S/9231/PB17	S/9220/PB17
Water	500mL	W/0115/08	W9-500			
	1L	W/0115/15	W9-1			
	2L	W/0115/99	W9-2			

\* Hydrochloric acid 25% \*\* Hydrochloric acid 37%



- 
- Back up slides

# Laboratory Reagents Handbook – Fisher Chemical

- 2 classifications to simplify Fisher Chemical product searches
  - ✓ Per alphabetical and quality in decreasing order according a colored code



- ✓ Classification by analytical applications within the catalog content
  - + Series of Mini adverts linked to the analytical application page



- Acids & bases for trace elemental analysis see page 14
- Buffers standard solutions see page 65
- Indicators see page 158
- Karl Fischer titration Aqualine™ see page 170
- Pharmacopeia grade : reagents & solvents see page 234
- Solvents, blends and reagents for chromatography see page 308
- Standard elemental solution for trace metal analysis see page 314
- Standard volumetric solution see page 323

**OPTIMA® grade for Ultra Trace Elemental analysis**

As low as 1-100 ppt level detection, tested up to 65 parameters  
 For ICP-AES & ICP-MS  
 Bottled in class 10 cleanroom conditions, individually double-bagged in class 100 cleanroom conditions.  
 Certificate of analysis delivered with each bottle.

designation	packsize	package type	Cat. No.	Mfr. No.	MSDS
Acetic acid	250 ml ampoule	FisherChem Taper PFA bottle	1194-4001	A465-250	14
	500 ml ampoule	FisherChem Taper PFA bottle	1194-4002	A465-500	14
Ammonia solution 28%	250 ml ampoule	FisherChem Taper PFA bottle	1194-4157	A470-250	25
	500 ml ampoule	FisherChem Taper PFA bottle	1194-4158	A470-500	25
Hydrochloric acid 33-35%	250 ml ampoule	Taper PFA bottle	1197-4001	A465-250	147
	500 ml ampoule	FisherChem Taper PFA bottle	1194-4001	A465-500	147
Hydrofluoric acid 47-51%	250 ml ampoule	FisherChem Taper PFA bottle	1194-4101	A465-250	152
	500 ml ampoule	FisherChem Taper PFA bottle	1194-4102	A465-500	152
Nitric acid 67-69%	250 ml ampoule	FisherChem Taper PFA bottle	1194-4001	A465-250	154
	500 ml ampoule	FisherChem Taper PFA bottle	1194-4002	A465-500	154
Perchloric acid 65-71%	250 ml ampoule	FisherChem Taper PFA bottle	1194-4111	A465-250	228
	500 ml ampoule	FisherChem Taper PFA bottle	1194-4112	A465-500	228
Sulfuric acid 95-98%	250 ml ampoule	FisherChem Taper PFA bottle	1194-4001	A465-250	358
	500 ml ampoule	FisherChem Taper PFA bottle	1194-4002	A465-500	358
Water	250 ml ampoule	UPPE bottle	1195-4001	WS-500	366
	1 L ampoule	UPPE bottle	1205-0362	WS-1	366

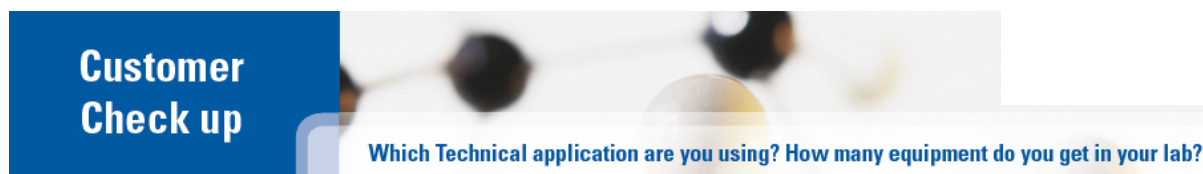
**High Purity Acids for Elemental Analysis**

Fisher Chemical offers a complete range of acids to meet the most demanding analytical needs. Choose from our Optima™, TraceMaster™ and Precision™ grades to ensure that the reliability you require is always available. [Read more page 74](#)

= The most useful tool to help sell Fisher Chemical products

# SellingTools

- Customer Check up card
- Competition table overview
- Elemental tool
- Chromatography tool



SCIENCE	APPLICATION	EQUIPMENT	TOP SELLING CHEMICAL PRODUCTS	MAIN PRODUCTS RANGE FISHER CHEMICAL CATALOGUE PAGE	GLOBAL CHEMICALS BROCHURES & CATALOGUE NO DOC AS400
Analytical Science	Liquid Chromatography	HPLC	<ul style="list-style-type: none"> <li>• Acetonitrile, Methanol &amp; Water</li> <li>• solvent blends LC-MS ready to use</li> <li>• Trifluoroacetic acid, Formic acid, &amp; Ammonium formate</li> </ul>	Solvents & Buffers HPLC & HPLC gradient grade	FSU071 Acetonitrile Gradient Fisher Chemical catalogue 77923
		HPLC-MS	<ul style="list-style-type: none"> <li>• Acetonitrile, Methanol &amp; Water</li> <li>• solvent blends HPLC ready to use</li> </ul>	Solvents & Buffers HPLC & HPLC gradient grade	FSU048 Optima Solvents & Blends Optima LCMS white paper
		TLC - Thin Layer Chromatography	Dichloromethane, Chloroform, Ethyl acetate, Methanol, Cyclohexane	Solvents For analysis or SLR (extra-pure) grade	Fisher Chemical catalogue 77923
		Preparative Chromatography (& Flash Chromatography)	Dichloromethane, Chloroform, Ethyl acetate, Methanol, Cyclohexane	AD Silicage   Solvents For Analysis or SLR (extra-pure) grade	FSU084 New packaging 5l solvents Fisher Chemical catalogue 77923 Acros Organics catalogue 777AK
		Liquid-Liquid Extraction (sample preparation)	Dichloromethane, Ethyl acetate, Methanol & Water	Solvents For Analysis or SLR (extra-pure) grade	FSU084 New packaging 5l solvents Fisher Chemical catalogue 77923
	Gas Chromatography	GC - Gas Chromatography (ask type of GC detector)	Dichloromethane, Acetone, Ethyl acetate, Cyclohexane n-Hexane, n-Pentane & Petroleum ether 40-60°C	Solvents for Residue & Pesticide analysis -Distol	Fisher Chemical catalogue 77923
		GC-MS (GC with Mass detector)	see list of solvents GC	Solvents for Residue & Pesticide analysis -Distol	Fisher Chemical catalogue 77923
	Elemental Analysis	AAS - Atomic Absorption Spectroscopy	Hydrochloric acid, Nitric acid, Sulfuric acid	Acids, Bases & Water (Primar Plus & Trace Metal grade) page 9 to 10 Standard Elemental page 256 to 265	FSU072 High Purity Acides Trace Metal analysis Fisher Chemical catalogue 77923
		ICP - Inductively Coupled Plasma	Hydrochloric acid, Nitric acid & Water	Acids, Bases & Water (Primar Plus & Trace Metal grade) page 9 to 10 Standard Elemental page 256 to 265	FSU072 High Purity Acides Trace Metal analysis Fisher Chemical catalogue 77923
		ICP-MS (ICP with a Mass detector)	Nitric acid, Water & Perchloric acid	Acids, Bases & Water (Optima & Trace Metal grade) page 9 to 10 Standard Elemental page 256 to 265	FSU072 High Purity Acides Trace Metal analysis Fisher Chemical catalogue 77923

• Our simple, application based grading structure is extended for a broader offer...

Application	For Analysis	Specified	Titration
<b>Optima® LC/MS</b> Ultra high-purity solvent for use with LC/MS systems. Low background noise in MS detection. Very low metal ion impurities content. Very low detection limit for the development of methods. Reduction in plastic contaminant peaks.	<b>HPLC Electrochemical</b> HPLC solvents for Electrochemical and UV detectors. Guaranteed for low electrochemical activity and low UV absorbance/high transmission. Includes lot analysis and absorbance curve on label.		<b>For Analysis</b> Certified reagents for analytical application. Tested for up to 18 guaranteed parameters. Actual lot analysis on the pack label.
<b>Certified HPLC-MS</b> HPLC solvents specified for use with LC/MS systems. Guaranteed for low level of trace metals and non-volatile residue. Low level of absorbance, performance under gradient conditions.	<b>GPC</b> For gel permeation chromatography. Filtered to 0.2µm. Low water, residue and colour. Unique chemical range – Actual lot analysis on the pack label.		<b>For Analysis Conform Eur.Ph.</b> Certified reagents for analytical application. Many of these products also comply with various pharmacopoeias, including BP, EP and USP. Tested for up to 18 guaranteed parameters. Actual lot analysis on the pack label.
<b>UHPLC Gradient Grade</b> Solvent certified for UHPLC analysis with high UV transmission. Low background noise at 210nm and 254nm. Filtered at 0.1µm for ultra low particulates.	<b>Optima® Grade</b> ICP-MS Ultra TraceMetal® analysis. Ultrapure acids, bases & water. Tested for up to 65 parameters at 1 to 100 ppt level. The highest performance acid range.		<b>Specified Laboratory Reagent (SLR)</b> Specified Laboratory Reagents for general laboratory applications. Tested for up to 13 parameters.
<b>Certified Advanced HPLC Gradient</b> Advanced HPLC gradient grade. HPLC gradient guarantee with a very low level of gradient baseline drift. Includes lot analysis and absorbance curve on the label.	<b>Trace Metal® Grade</b> Trace Metal™ for ICP trace metal analysis. Acids tested for up to 65 parameters at ppb levels.		<b>Volumetric solution</b> Standard solutions for volumetric analysis. Accuracy factor up to 0.999 to 1.001 NIST traceability. Ready to use.
<b>CertiFied™ HPLC Gradient</b> HPLC solvents suitable for gradient analysis. Guaranteed for low absorbance/high UV transmission and low concentration of non-volatile impurities. In some instances may be suitable for fluorescence detection. Includes lot analysis and absorbance curve on the label.	<b>Primar Plus® Grade</b> Acids for trace elemental analysis. Acids are tested for up to 40 parameters. Levels to ppb.		<b>Solute</b> Concentrated solutions for volumetric analysis. Supplied in singles or pack of six sealed ampoules.
<b>HPLC Fluorescence</b> HPLC solvents for Fluorescence and UV detectors. Guaranteed for low fluorescence between 250nm and 750nm emission & excitation wavelengths.	<b>Distol</b> For pesticide and petroleum residue analysis. Specified for ECD, NPD and FID detectors. GC range supplied with certificate of analysis.		<b>Buffers</b> Standard (colour coded) NIST certified solutions for pH. Ready to use, with an accuracy factor of ±0.02 pH at 20°C. Also available as concentrates, packaged in ampoules.
	<b>Dried Distilled</b> For organic synthesis. Guaranteed low water content.		<b>Karl Fisher reagents Aqualine®</b> Karl Fisher Aqualine™ reagents for the determination of moisture volumetric and coulometric reagents and standards. Pyridine free, rapid titration and a stable end-point. Supplied in single packs or in ampoules.