

FLUXANA

**Your supplier for
XRF Application Solutions**

HD
ELEKTRONIK
Fusion machines

Petrochemical Reference Materials

- Sulfur
- Chlorine
- Lead
- Iron, Nickel, Vanadium, Sulfur
- Nickel, Vanadium, Sulfur
- Nickel, Vanadium
- Wear Metals
- Organometallic Single Element Standards
- Lubricating Oils



Two Companies - One Solution

Our clientele are the user of X-ray fluorescence analysis (XRF). This spectroscopic method is used for element analysis and to define the inorganic composition of a substance / of a product. The method is applied in the whole industry for quality assurance, but also in institutions and agencies for control of compliance with formalities.

We supply to these users of XRF any kind of accessories like cups, thin films, chemicals and reference materials. Furthermore we offer a spectrum of different sample preparation machines like fusion machines, mills and presses.

Among the use of our products with the X-ray fluorescence analysis, more and more customers need support with the practical realization of a method. Therefore we offer our customers the opportunity of a complete application development including the introduction into the methodology in the clientele laboratory on-site. In the past this opportunity was primarily requested by the cement and raw materials industry. Of course we offer this service to all users of XRF - worldwide.



FLUXANA: analytical laboratory, sales, support and marketing

The head office of FLUXANA is situated in Bedburg-Hau at the lower Rhine. Here is the central storage facility for the wholesale located as well as the research and development department of new X-ray fluorescence services and the corresponding application laboratories. In Bedburg-Hau also customer training and seminars take place. The service for the sample preparations devices is organized also from here. An additional branch of FLUXANA is located in Ilmenau, Thuringia. XRF-glasses are produced according to the specifications and requirements of our customers. These glasses are used to monitor the stability of the XRF-machines.

HD Elektronik: production

The head office of HD Elektronik is in Kleve at the lower Rhine. Fusion machines for XRF are produced here since 1997. Through the cooperation with FLUXANA the spectrum of fusion machines could be quite extended so that by today a wide range of different models can be supplied. Meanwhile the production was expanded even further with a new series of preparation devices. The newest product line includes manual and automatic presses for the XRF, which can produce a pellet with up to 40 tons of pressure.

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Finanzamt Kleve

Sales Information

General Information

This catalog should give you an overview about available reference materials sorted by application.

We cannot guarantee that all values are correct and every material is still available. Please ask for a quote and the certificate of the reference material.

Each material within this catalogue has a unique identifier which incorporates the manufacturer's reference material number.

Catalogue numbers are displayed in the format [producer] space [manufacturer's code] e.g., PR01 BSCC-3.

The manufacturer's code is BSCC-3. This code will appear on the certificate of analysis.

This catalog should give you an overview about available reference materials sorted by application.

We cannot guarantee that all values are correct and every material is still available. Please ask for a quote and the certificate of the reference material.

Unit conversion: 1oz = 29.6ml, 1gal = 128oz = 3.7843 liter, 2oz = 59ml, 4oz = 118ml, 8oz = 236ml, 16oz = 473ml

Most of the reference materials are coming together with a certificate traceable to NIST.

Please Note: If you are unable to locate materials within this catalogue to meet your needs please send the specification of the materials you require. We will search our extensive database of existing materials and offer options for your consideration.

Hazardous Goods

Some materials listed in this catalogue must be treated as hazardous for the purposes of despatch. For these materials we use special packaging and transport and will gladly confirm the costs involved upon enquiry.

We must follow the International 'dangerous Goods' Regulations, and can only consign these materials by air freight. They CANNOT be despatched by international Courier e.g., FedEx, UPS etc.

Prices

Please ask for an actual quotation for the required reference materials.

Online Catalog

You can download our catalog as pdf File from our website: www.fluxana.com

Other Products

FLUXANA Sample Preparation for X-ray Fluorescence Analysis XRF

FLUXANA Reference Materials for Metals (Disks and Chips, SUS,...)

FLUXANA Reference Materials Minerals (Industrial, Coal, ROHS/Plastics)

FLUXANA Reference Materials waterbased for ICP, AA, IC, etc.

FLUXANA Reference Materials for Aluminum (Disks and Chips, SUS,...)

For more information see: www.fluxana.com



FLUXANA Professional Cups for Liquid Analysis

Part No.	Description	OD mm	ID mm	H mm	Vol ml
SC-3332	Cup, ring, cap for: Spectro XEPOS, XLAB 2000®	32	25	23	10
SC-3335	Cup, ring, cap for Philips/Panalytical®	35	28	30	18
SC-3340	Inner ring, outer ring, cap for: Bruker®SRS, S4, S8, ARL Optimix®	40	34	21	18
SC-3340T	Inner ring, outer ring, cap for ARL	40	32	29	25
SC-3345	Inner ring, outer ring, cap universal for 45mm	45	37	40	40
SC-3351	Cup, cap universal for 51,5mm holder	51	44	33	50
SC-4031	Cup, ring, single open ended, universal open for 32mm holder	32	25	24	12
SC-4047	Cup, ring, single open ended, for Horiba®	47	38	18,5	18
SC-4131	Cup, ring, collar single open ended, universal for 32mm holder	32	25	24	12
SC-4140	Cup, ring, collar single open ended, universal for 40mm holder	40	32	24	18
SC-4231	Cup, 2 rings, double open ended, universal for 32mm holder	32	25	24	12
SC-4240	Cup, 2 rings, double open ended, universal for 40mm holder	40	32	24	18
SC-4331	Cup, ring, cap universal for 32mm holder	32	25	24	12
SC-4335	Cup, ring, cap for Philips/Panalytical®	35	27	35	18
SC-4340	Cup, ring, cap universal for 40mm holder	40	32	24	18
SC-4345	Cup, cap for Philips/Panalytical®	45	39	32	36
SC-6232	Cup, 2 rings, double open ended for Spectro XEPOS, XLAB2000®	32	25	23	10
SC-6332	Cup, ring, cap for Spectro XEPOS, XLAB 2000®	32	25	23	10
SC-7332	Inner cup and cap, designed for Oxford®	32	30	38,5	25
SC-7332inner	Only inner cup, designed for Oxford LABX®	32	30	38,5	25
SC-7332cap	Only cap, designed for Oxford LABX®				
SC-8047	Cup, ring, single open ended, for Horiba® 47mm holder	47	38	18,5	18
SC-MC-1520	Microcup, double open ended, cap	31	15	27	3,6



Our sample cups are designed for use in XRF.

All cups have been optimized. All cups have been approved by our customers worldwide.

Please ask for a quote.

FLUXANA Thin Films for Liquid Analysis

Part No.	Description	Thickness µm	Packaging
TF-025	Microporous		Roll
TF-112	Mylar	12	Roll
TF-115	Ultrapolyester	1,5	Roll
TF-125	Mylar	2,5	Roll
TF-125-345	Mylar	2,5	Squares
TF-12560	PolyRep(Replacement for Polycarbonate)	Mylar 2,5 + PP 6,0	2 Rolls
TF-1335	Hostaphan	3,5	Roll
TF-1335-345	Hostaphan	3,5	Squares
TF-135	Mylar	3,5	Roll
TF-135-255	Mylar	3,5	Circles
TF-135-345	Mylar	6	Squares
TF-160	Mylar	6	Roll
TF-160-255	Mylar	6	Circles
TF-160-345	Mylar	6	Squares
TF-212	Polypropylene	12	Roll
TF-212-345	Polypropylene	12	Squares
TF-240	Polypropylene	4	Roll
TF-240-255	Polypropylene	4	Circles
TF-240-30	Polypropylene	4	Circles
TF-240-345	Polypropylene	4	Squares
TF-250	Polypropylene	5	Roll
TF-260	Polypropylene	6	Roll
TF-260-255	Polypropylene	6	Circles
TF-260-345	Polypropylene	6	Squares
TF-350	Polycarbonate	5	Roll
TF-475	Kapton	7,5	Roll
TF-475-345	Kapton	7,5	Squares
TF-500	XRF Tape		Roll
TF-LS-240-255	Polypropylene Low Sulfur	4	Circles



The preferences of our films:

25% more pre-cut films p. p. than other brands.
 Dust proof anti static packaging
 Lot number tracking system
 Rolls, Pre-cut circles and sheets.

Roll 6,4cm x 5,1m

Square 7,6cm x 7,6cm (500 pcs.)

Circle 6,4cm (500 pcs.)

**We support you in finding the right Thin Films
 for your analysis.
 Please call us and ask for our experts in
 our own laboratory.**

Please ask for a quote.

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If you don't find your standard we will provide you with a customer specific quotation!

FLUXANA GmbH & Co.KG, Persönlich haftender Gesellschafter Fluxana Verwaltungs-GmbH Sitz in Bedburg-Hau Geschäftsführer Dr. Rainer Schramm Amtsgericht Kleve HR-A 2935 HR-B 8211 Ust-IdNr.: DE 814692564 Steuer-Nr. 116/5755/0442 Finanzamt Kleve

1. Sulfur

1.1. Sulfur in Light Mineral Oil according DIN EN ISO 20884 (ASTM Methods D2622, D4294, D7039, D7212, D7220 and others)						
		Application	Qty	S µg/g	S %	
VHG	S20MIN-BLK-100	sulfur in mineral oil	100ml	0	0,0000	Sulfur concentration calculated from % sulfur in di- n-butyl sulfide XRF film used for this application: Mylar, Hostaphan, Polypropylene
VHG	S20MIN-5-100	sulfur in mineral oil	100ml	5	0,0005	
VHG	S20MIN-10-100	sulfur in mineral oil	100ml	10	0,0010	
VHG	S20MIN-15-100	sulfur in mineral oil	100ml	15	0,0015	
VHG	S20MIN-20-100	sulfur in mineral oil	100ml	20	0,0020	
VHG	S20MIN-25-100	sulfur in mineral oil	100ml	25	0,0025	
VHG	S20MIN-50-100	sulfur in mineral oil	100ml	50	0,0050	
VHG	S20MIN-75-100	sulfur in mineral oil	100ml	75	0,0075	
VHG	S20MIN-100-100	sulfur in mineral oil	100ml	100	0,0100	
VHG	S20MIN-200-100	sulfur in mineral oil	100ml	200	0,0200	
VHG	S20MIN-300-100	sulfur in mineral oil	100ml	300	0,0300	
VHG	S20MIN-400-100	sulfur in mineral oil	100ml	400	0,0400	
VHG	S20MIN-500-100	sulfur in mineral oil	100ml	500	0,0500	
VHG	S20MIN-750-100	sulfur in mineral oil	100ml	750	0,0750	
VHG	S20MIN-1000-100	sulfur in mineral oil	100ml	1000	0,100	
VHG	S20MIN-1500-100	sulfur in mineral oil	100ml	1500	0,150	
VHG	S20MIN-3000-100	sulfur in mineral oil	100ml	3000	0,300	
VHG	S20MIN-5000-100	sulfur in mineral oil	100ml	5000	0,500	
VHG	S20MIN-7500-100	sulfur in mineral oil	100ml	7500	0,750	
VHG	S20MIN-1%-100	sulfur in mineral oil	100ml	10000	1,00	
VHG	S20MIN-2%-100	sulfur in mineral oil	100ml	20000	2,00	
VHG	S20MIN-3%-100	sulfur in mineral oil	100ml	30000	3,00	
VHG	S20MIN-4%-100	sulfur in mineral oil	100ml	40000	4,00	
VHG	S20MIN-5%-100	sulfur in mineral oil	100ml	50000	5,00	
1.2. Sulfur in Heavy Mineral Oil DIN EN ISO 20884 (ASTM Methods D2622, D4294, D7039, D7212, D7220 and others)						
		Application	Qty	S µg/g	S %	
VHG	SMIN-BLK-100	sulfur in mineral oil	100ml	0	0,0000	
VHG	SMIN-5-100	sulfur in mineral oil	100ml	5	0,0005	
VHG	SMIN-10-100	sulfur in mineral oil	100ml	10	0,0010	
VHG	SMIN-15-100	sulfur in mineral oil	100ml	15	0,0015	
VHG	SMIN-20-100	sulfur in mineral oil	100ml	20	0,0020	
VHG	SMIN-25-100	sulfur in mineral oil	100ml	25	0,0025	
VHG	SMIN-50-100	sulfur in mineral oil	100ml	50	0,0050	
VHG	SMIN-75-100	sulfur in mineral oil	100ml	75	0,0075	
VHG	SMIN-100-100	sulfur in mineral oil	100ml	100	0,0100	
VHG	SMIN-200-100	sulfur in mineral oil	100ml	200	0,0200	
VHG	SMIN-300-100	sulfur in mineral oil	100ml	300	0,0300	
VHG	SMIN-400-100	sulfur in mineral oil	100ml	400	0,0400	
VHG	SMIN-500-100	sulfur in mineral oil	100ml	500	0,0500	
VHG	SMIN-750-100	sulfur in mineral oil	100ml	750	0,0750	
VHG	SMIN-1000-100	sulfur in mineral oil	100ml	1000	0,100	
VHG	SMIN-1500-100	sulfur in mineral oil	100ml	1500	0,150	
VHG	SMIN-3000-100	sulfur in mineral oil	100ml	3000	0,300	
VHG	SMIN-5000-100	sulfur in mineral oil	100ml	5000	0,500	
VHG	SMIN-7500-100	sulfur in mineral oil	100ml	7500	0,750	
VHG	SMIN-1%-100	sulfur in mineral oil	100ml	10000	1,00	
VHG	SMIN-2%-100	sulfur in mineral oil	100ml	20000	2,00	
VHG	SMIN-3%-100	sulfur in mineral oil	100ml	30000	3,00	
VHG	SMIN-4%-100	sulfur in mineral oil	100ml	40000	4,00	
VHG	SMIN-5%-100	sulfur in mineral oil	100ml	50000	5,00	

1.Sulfur

1.3. Sulfur in Mineral Oil		Application	Qty	S µg/g	S %	XRF film used for this application: Mylar, Hostaphan, Polypropylene
CON	150-400-025	sulfur in mineral oil	100ml	0	0,0000	
CON	150-400-018	sulfur in mineral oil	100ml	5	0,0005	
CON	150-400-002	sulfur in mineral oil	100ml	100	0,0100	
CON	150-400-010	sulfur in mineral oil	100ml	250	0,0250	
CON	150-400-019	sulfur in mineral oil	100ml	500	0,0500	
CON	150-400-023	sulfur in mineral oil	100ml	750	0,0750	
CON	150-400-003	sulfur in mineral oil	100ml	1000	0,1000	
CON	150-400-011	sulfur in mineral oil	100ml	2500	0,2500	
CON	150-400-020	sulfur in mineral oil	100ml	5000	0,5000	
CON	150-400-024	sulfur in mineral oil	100ml	7500	0,7500	
CON	150-400-004	sulfur in mineral oil	100ml	10000	1,0000	
CON	150-400-005	sulfur in mineral oil	100ml	15000	1,5000	
CON	150-400-008	sulfur in mineral oil	100ml	20000	2,0000	
CON	150-400-012	sulfur in mineral oil	100ml	25000	2,5000	
CON	150-400-014	sulfur in mineral oil	100ml	30000	3,0000	
CON	150-400-016	sulfur in mineral oil	100ml	40000	4,0000	
CON	150-400-021	sulfur in mineral oil	100ml	50000	5,0000	

1.4. Sulfur in Diesel Fuel		Application	Qty	Hg ng/kg	S µg/g	S %	* additional harzadous fee
NIST	1624d	sulfur in diesel fuel oil	100ml *		3882	0,3882	
NIST	2723a	sulfur in diesel fuel	10 x 10ml		11,0	0,00110	
NIST	2724b	sulfur in diesel fuel oil	10 x 10ml	0,034	426,5	0,04265	
NIST	2770	sulfur in diesel fuel oil	10 x 10ml		41,57	0,004157	
NIST	RM 8771	sulfur in diesel fuel blend stock	100ml *		71	0,0071	

Sulfur in Diesel Fuel		Application	Qty	S µg/g	S %
FX	SDF-BL-20ML-PAK	sulfur in diesel	5x20ml	0	0,000
FX	SDF-1X-20ML-PAK	sulfur in diesel	5x20ml	100	0,010
FX	SDF-2X-20ML-PAK	sulfur in diesel	5x20ml	200	0,020
FX	SDF-3X-20ML-PAK	sulfur in diesel	5x20ml	300	0,030
FX	SDF-4X-20ML-PAK	sulfur in diesel	5x20ml	400	0,040
FX	SDF-5X-20ML-PAK	sulfur in diesel	5x20ml	500	0,050
FX	SDF-7,5X-20ML-PAK	sulfur in diesel	5x20ml	750	0,075
FX	SDF-10X-20ML-PAK	sulfur in diesel	5x20ml	1000	0,10
FX	SDF-15X-20ML-PAK	sulfur in diesel	5x20ml	1500	0,15
FX	SDF-30X-20ML-PAK	sulfur in diesel	5x20ml	3000	0,30
FX	SDF-50X-20ML-PAK	sulfur in diesel	5x20ml	5000	0,50
FX	SDF-70X-20ML-PAK	sulfur in diesel	5x20ml	7000	0,70
FX	SDF-100X-20ML-PAK	sulfur in diesel	5x20ml	10000	1,00
FX	SDF-150X-20ML-PAK	sulfur in diesel	5x20ml	15000	1,50
FX	SDF-200X-20ML-PAK	sulfur in diesel	5x20ml	20000	2,00
FX	SDF-300X-20ML-PAK	sulfur in diesel	5x20ml	30000	3,00
FX	SDF-400X-20ML-PAK	sulfur in diesel	5x20ml	40000	4,00
FX	SDF-500X-20ML-PAK	sulfur in diesel	5x20ml	50000	5,00
FX	SDF-600X-20ML-PAK	sulfur in diesel	5x20ml	60000	6,00

1. Sulfur

1.4. Sulfur in Diesel		Application		Qty	S µg/g	S %	
FX	SDF-BL-20ML-PAK	sulfur in diesel	only as a set	5x20ml	0	0,000	
FX	SDF-0,001X-20ML-PAK	sulfur in diesel	only as a set	5x20ml	10	0,001	
FX	SDF-0,015X-20ML-PAK	sulfur in diesel	only as a set	5x20ml	15	0,0015	
FX	S-11562	sulfur in diesel	Set 3x	5x20ml			

Sulfur in Diesel Fuel		Application		Qty	S µg/g	S %	
CON	150-410-009	sulfur in diesel	*	100g	50	0,0050	*additional hazardous fee
CON	150-410-002	sulfur in diesel	*	100g	100	0,0100	
CON	150-410-010	sulfur in diesel	*	100g	500	0,0500	
CON	150-400-003	sulfur in diesel	*	100g	1000	0,1000	
CON	150-410-011	sulfur in diesel	*	100g	5000	0,5000	
CON	150-410-004	sulfur in diesel	*	100g	10000	1,0000	
CON	150-410-006	sulfur in diesel	*	100g	15000	1,5000	
CON	150-410-007	sulfur in diesel	*	100g	20000	2,0000	
LGC	EF674A	Diesel Fuel	natural S	100ml	11	0,0011	
LGC	EF673A	Diesel Fuel	natural S	100ml	52	0,0052	

Sulfur in Diesel Fuel DIN EN ISO 70884 (ASTM Methods D2622, D4294, D7039, D7212, D7220 and others)		Application		Qty	S µg/g	S %	
VHG	SDSL-BLK-100	sulfur in diesel		5x20ml	0	0,0000	
VHG	SDSL-5-100	sulfur in diesel		5x20ml	5	0,0005	
VHG	SDSL-10-100	sulfur in diesel		5x20ml	10	0,0010	
VHG	SDSL-15-100	sulfur in diesel		5x20ml	15	0,0015	
VHG	SDSL-20-100	sulfur in diesel		5x20ml	20	0,0020	
VHG	SDSL-25-100	sulfur in diesel		5x20ml	25	0,0025	
VHG	SDSL-50-100	sulfur in diesel		5x20ml	50	0,0050	
VHG	SDSL-75-100	sulfur in diesel		5x20ml	75	0,0075	
VHG	SDSL-100-100	sulfur in diesel		5x20ml	100	0,0100	
VHG	SDSL-200-100	sulfur in diesel		5x20ml	200	0,0200	
VHG	SDSL-300-100	sulfur in diesel		5x20ml	300	0,0300	
VHG	SDSL-400-100	sulfur in diesel		5x20ml	400	0,0400	
VHG	SDSL-500-100	sulfur in diesel		5x20ml	500	0,0500	
VHG	SDSL-750-100	sulfur in diesel		5x20ml	750	0,0750	
VHG	SDSL-1000-100	sulfur in diesel		5x20ml	1000	0,1000	
VHG	SDSL-1500-100	sulfur in diesel		5x20ml	1500	0,1500	
VHG	SDSL-3000-100	sulfur in diesel		5x20ml	3000	0,3000	
VHG	SDSL-5000-100	sulfur in diesel		5x20ml	5000	0,4000	
VHG	SDSL-7500-100	sulfur in diesel		5x20ml	7500	0,5000	
VHG	SDSL-1%-100	sulfur in diesel		5x20ml	10000	1,00	
VHG	SDSL-2%-100	sulfur in diesel		5x20ml	20000	2,00	
VHG	SDSL-3%-100	sulfur in diesel		5x20ml	30000	3,00	
VHG	SDSL-4%-100	sulfur in diesel		5x20ml	40000	4,00	
VHG	SDSL-5%-100	sulfur in diesel		5x20ml	50000	5,00	

1. Sulfur

1.5. Sulfur in Biodiesel 5% (ASTM Methods D6751 & D5453 Sulfur as Di-n-butyl sulfide in Biodiesel)					
		Application	Qty	S µg/g	S %
FX	BF-5453-B5-BL	sulfur in biodiesel	5x20ml	0	0,0000
FX	BF-5453-B5-5X-SET	sulfur in biodiesel	10x20ml	5	0,0005
FX	BF-5453-B5-10X-SET	sulfur in biodiesel	10x20ml	10	0,0010
FX	BF-5453-B5-15X-SET	sulfur in biodiesel	10x20ml	15	0,0015
FX	BF-5453-B5-30X	sulfur in biodiesel	5x20ml	30	0,0030
FX	BF-5453-B5-50X	sulfur in biodiesel	5x20ml	50	0,0050
FX	BF-5453-B5-75X	sulfur in biodiesel	5x20ml	75	0,0075
FX	BF-5453-B5-100X	sulfur in biodiesel	5x20ml	100	0,01
FX	BF-5453-B5-200X	sulfur in biodiesel	5x20ml	200	0,02
FX	BF-5453-B5-500X	sulfur in biodiesel	5x20ml	500	0,05
Sulfur in Biodiesel 20% (ASTM Methods D6751 & D5453 Sulfur as Di-n-butyl sulfide in Biodiesel)					
		Application	Qty	S µg/g	S %
FX	BF-5453-B20-BL	sulfur in biodiesel	5x20ml	0	0,0000
FX	BF-5453-B20-5X-SET	sulfur in biodiesel	10x20ml	5	0,0005
FX	BF-5453-B20-10X-SET	sulfur in biodiesel	10x20ml	10	0,0010
FX	BF-5453-B20-15X-SET	sulfur in biodiesel	10x20ml	15	0,0015
FX	BF-5453-B20-30X	sulfur in biodiesel	5x20ml	30	0,0030
FX	BF-5453-B20-50X	sulfur in biodiesel	5x20ml	50	0,0050
FX	BF-5453-B20-75X	sulfur in biodiesel	5x20ml	75	0,0075
FX	BF-5453-B20-100X	sulfur in biodiesel	5x20ml	100	0,01
FX	BF-5453-B20-200X	sulfur in biodiesel	5x20ml	200	0,02
FX	BF-5453-B20-500X	sulfur in biodiesel	5x20ml	500	0,05
Sulfur in Biodiesel 100% (ASTM Methods D6751 & D5453 Sulfur as Di-n-butyl sulfide in Biodiesel)					
		Application	Qty	S µg/g	S %
FX	BF-5453-B100-BL	sulfur in biodiesel	5x20ml	0	0,0000
FX	BF-5453-B100-5X-SET	sulfur in biodiesel	10x20ml	5	0,0005
FX	BF-5453-B100-10X-SET	sulfur in biodiesel	10x20ml	10	0,0010
FX	BF-5453-B100-15X-SET	sulfur in biodiesel	10x20ml	15	0,0015
FX	BF-5453-B100-30X	sulfur in biodiesel	5x20ml	30	0,0030
FX	BF-5453-B100-50X	sulfur in biodiesel	5x20ml	50	0,0050
FX	BF-5453-B100-75X	sulfur in biodiesel	5x20ml	75	0,0075
FX	BF-5453-B100-100X	sulfur in biodiesel	5x20ml	100	0,01
FX	BF-5453-B100-200X	sulfur in biodiesel	5x20ml	200	0,02
FX	BF-5453-B100-500X	sulfur in biodiesel	5x20ml	500	0,05
1.6. Sulfur in Kerosene					
		Application	Qty	S µg/g	S %
NIST	1616b	sulfur in kerosene	100ml*	8,41	0,000841
NIST	1617a	sulfur in kerosene	100ml*	1730,7	0,17307

*additional hazardous fee

1. Sulfur

1.6. Sulfur in Kerosene Standards suitable for use with ASTM D2622, D3120, D346, D4294,,D5453, D6334 and others					
		Application	Qty	S µg/g	S %
VHG	SKERO-BLK-100	sulfur in kerosene	5x20ml	0	0,000
VHG	SKERO-10-100	sulfur in kerosene	5x20ml	10	0,0010
VHG	SKERO-50-100	sulfur in kerosene	5x20ml	50	0,0050
VHG	SKERO-100-100	sulfur in kerosene	5x20ml	100	0,0100
VHG	SKERO-300-100	sulfur in kerosene	5x20ml	300	0,0300
VHG	SKERO-500-100	sulfur in kerosene	5x20ml	500	0,0500
VHG	SKERO-750-100	sulfur in kerosene	5x20ml	750	0,0750
VHG	SKERO-1000-100	sulfur in kerosene	5x20ml	1000	0,1000
Sulfur in Light Distillate Kerosene					
		Application	Qty	S µg/g	S %
FX	SK-BL-20ML-PAK	sulfur in kerosene	5x20ml	0	0,000
FX	SK-1X-20ML-PAK	sulfur in kerosene	5x20ml	100	0,010
FX	SK-3X-20ML-PAK	sulfur in kerosene	5x20ml	300	0,030
FX	SK-5X-20ML-PAK	sulfur in kerosene	5x20ml	500	0,050
FX	SK-7,5X-20ML-PAK	sulfur in kerosene	5x20ml	750	0,075
FX	SK-10X-20ML-PAK	sulfur in kerosene	5x20ml	1000	0,10
FX	SK-20X-20ML-PAK	sulfur in kerosene	5x20ml	2000	0,20
FX	SK-30X-20ML-PAK	sulfur in kerosene	5x20ml	3000	0,30
FX	SK-40X-20ML-PAK	sulfur in kerosene	5x20ml	4000	0,40
FX	SK-50X-20ML-PAK	sulfur in kerosene	5x20ml	5000	0,50
FX	SK-100X-20ML-PAK	sulfur in kerosene	5x20ml	10000	1,00
FX	SK-200X-20ML-PAK	sulfur in kerosene	5x20ml	20000	2,00
Sulfur concentration calculated from % sulfur in di- n-butyl sulfide					
Sulfur in Heavy Distillate Kerosene					
		Application	Qty	S µg/g	S %
FX	SK-HD-BL-20ML-PAK	sulfur in kerosene	5x20ml	0	0
FX	SK-HD-1X-20ML-PAK	sulfur in kerosene	5x20ml	100	0,01
FX	SK-HD-2X-20ML-PAK	sulfur in kerosene	5x20ml	200	0,02
FX	SK-HD-3X-20ML-PAK	sulfur in kerosene	5x20ml	300	0,03
FX	SK-HD-4X-20ML-PAK	sulfur in kerosene	5x20ml	400	0,04
FX	SK-HD-5X-20ML-PAK	sulfur in kerosene	5x20ml	500	0,05
FX	SK-HD-7,5X-20ML-PAK	sulfur in kerosene	5x20ml	750	0,075
FX	SK-HD-10X-20ML-PAK	sulfur in kerosene	5x20ml	1000	0,10
FX	SK-HD-15X-20ML-PAK	sulfur in kerosene	5x20ml	1500	0,15
FX	SK-HD-20X-20ML-PAK	sulfur in kerosene	5x20ml	2000	0,20
FX	SK-HD-30X-20ML-PAK	sulfur in kerosene	5x20ml	3000	0,30
FX	SK-HD-40X-20ML-PAK	sulfur in kerosene	5x20ml	4000	0,40
FX	SK-HD-50X-20ML-PAK	sulfur in kerosene	5x20ml	5000	0,50
FX	SK-HD-70X-20ML-PAK	sulfur in kerosene	5x20ml	7000	0,70
FX	SK-HD-100X-20ML-PAK	sulfur in kerosene	5x20ml	10000	1,00
FX	SK-HD-150X-20ML-PAK	sulfur in kerosene	5x20ml	15000	1,50
FX	SK-HD-200X-20ML-PAK	sulfur in kerosene	5x20ml	20000	2,00
FX	SK-HD-300X-20ML-PAK	sulfur in kerosene	5x20ml	30000	3,00
FX	SK-HD-400X-20ML-PAK	sulfur in kerosene	5x20ml	40000	4,00
FX	SK-HD-500X-20ML-PAK	sulfur in kerosene	5x20ml	50000	5,00
FX	SK-HD-600X-20ML-PAK	sulfur in kerosene	5x20ml	60000	6,00
FX	SK-HD-CAL-20ML-PAK-SET	sulfur in kerosene	21x5x20ml		
XRF film used for this application: Mylar, Hostaphan					

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1.7. Sulfur in Gasoline & Reformulated Gasoline						
		Application	Remarks	Qty	S µg/g	S %
NIST	2294	Reformulated gasoline (nom. 11% MTBE)		2 x 20ml	40,9	0,00409
NIST	2295	Reformulated gasoline (nom. 15% MTBE)		2 x 20ml	308	0,0308
NIST	2296	Reformulated gasoline (nom. 13% MTBE)		2 x 20ml	40,0	0,00400
NIST	2297	Reformulated gasoline (nom. 10% Ethanol)		2 x 20ml	303,7	0,03037
NIST	2298	Gasoline (High-Octane)		5 x 20ml	4,7	0,00047
NIST	2299	Gasoline (Reformulated)		5 x 20ml	13,6	0,00136
LGC	EF211	Gasoline	natural S	19ml	48,8	0,00488
LGC	EF212	Gasoline	natural S	19ml	20,2	0,00202
LGC	EF213	Gasoline	natural S	19ml	9,1	0,00091
LGC	EF211-213	Set		3x19ml	...	...
LGC	EF672	Gas Oil		8ml	203	0,0203
LGC	EF671	Gas Oil		8ml	452	0,0452
LGC	EF104	Gas Oil		8ml	1019	0,1019
LGC	BCR-105	Gas Oil		8ml	6360	0,636
LGC	BCR-106	Gas Oil		8ml	5020	0,502
LGC	BCR-107	Gas Oil		8ml	10040	1,040

1.8. Sulfur Calibration Standards in Isooctane for Gasoline & Reformulated Gasoline Analysis						
		Application		Qty	S µg/g	S %
FX	STP-BL-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	0	0
FX	STP-1X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	10	0,001
FX	STP-2X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	20	0,002
FX	STP-3X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	30	0,003
FX	STP-5X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	50	0,005
FX	STP-10X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	100	0,010
FX	STP-20X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	200	0,020
FX	STP-30X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	300	0,030
FX	STP-40X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	400	0,040
FX	STP-60X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	600	0,060
FX	STP-100X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	1000	0,10
FX	STP-200X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	2000	0,20
FX	STP-300X-100ML	sulfur in isooctane	D2622-98 D-4294-98	5x20ml	3000	0,30
FX	STP-CAL-100ML-SET	sulfur in isooctane	D2622-98 D-4294-98	13x5x20ml		

Sulfur Calibration Standards in Isooctane (ASTM D2622, D3120, D, 3246, D3961, D4045, D4294, D5453, D6212, D6334, D6428, D6445, D7039, D7212, D7220 and others)						
		Application		Qty	S µg/g	S %
VHG	SISO-BLK-100	sulfur in isooctane		5x20ml	0	0
VHG	SISO-5-100	sulfur in isooctane		5x20ml	5	0,0005
VHG	SISO-10-100	sulfur in isooctane		5x20ml	10	0,0010
VHG	SISO-25-100	sulfur in isooctane		5x20ml	25	0,0025
VHG	SISO-50-100	sulfur in isooctane		5x20ml	50	0,0050
VHG	SISO-75-100	sulfur in isooctane		5x20ml	75	0,0075
VHG	SISO-100-100	sulfur in isooctane		5x20ml	100	0,0100
VHG	SISO-200-100	sulfur in isooctane		5x20ml	200	0,0200
VHG	SISO-300-100	sulfur in isooctane		5x20ml	300	0,0300
VHG	SISO-400-100	sulfur in isooctane		5x20ml	400	0,0400
VHG	SISO-500-100	sulfur in isooctane		5x20ml	500	0,0500
VHG	SISO-750-100	sulfur in isooctane		5x20ml	750	0,0750
VHG	SISO-1000-100	sulfur in isooctane		5x20ml	1000	0,100
VHG	SISO-3000-100	sulfur in isooctane		5x20ml	3000	0,300

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1.9. Low Level Sulfur Calibration Standards for use on XRF Energy Dispersive or Wavelength Instruments (ASTM D-2622-98, D-6334-98, D-6445-99)							
		Application		Qty	S µg/g	S %	
FX	D-2622-LL-BL-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	0	0	Well characterized Thiophene & 2-Methyl thiophene are used in a low sulfur Isooctane/Toluene matrix (3:1) for this calibration set. The material comes in 20ml bottles No extra costs for hazardous shipment
FX	D-2622-LL-5X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	5	0,0005	
FX	D-2622-LL-10X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	10	0,0010	
FX	D-2622-LL-30X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	30	0,0030	
FX	D-2622-LL-50X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	50	0,0050	
FX	D-2622-LL-75X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	75	0,0075	
FX	D-2622-LL-100X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	100	0,010	
FX	D-2622-LL-300X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	300	0,030	
FX	D-2622-LL-500X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	500	0,050	
FX	D-2622-LL-1000X-100ML	sulfur isoocat./toluene	D-2622, D-4294, D-6445	5x20ml	1000	0,100	
FX	D-2622-LL-CAL-100ML-SET	sulfur isoocat./toluene	D-2622, D-4294, D-6445	10x5x20ml			XRF film used for this application: Mylar, Hostaphan
Mid Level Sulfur Calibration Standards (ASTM D-2622-98, D-6334-98, D-6445-99)							
		Application		Qty	S µg/g	S %	
FX	D-2622-LL-200X-100ML	sulfur isoocat./toluene	D-2622, D-6334, D-6445	5x20ml	200	0,020	Well characterized Thiophene & 2-Methyl thiophene are used in a low sulfur Isooctane/Toluene matrix (3:1) for this calibration set. The material comes in 20ml bottles No extra costs for hazardous shipment
FX	D-2622-LL-400X-100ML	sulfur isoocat./toluene	D-2622, D-6334, D-6445	5x20ml	400	0,040	
FX	D-2622-LL-600X-100ML	sulfur isoocat./toluene	D-2622, D-6334, D-6445	5x20ml	600	0,060	
FX	D-2622-LL-700X-100ML	sulfur isoocat./toluene	D-2622, D-6334, D-6445	5x20ml	700	0,070	
FX	D-2622-LL-800X-100ML	sulfur isoocat./toluene	D-2622, D-6334, D-6445	5x20ml	800	0,080	
FX	D-2622-LL-900X-100ML	sulfur isoocat./toluene	D-2622, D-6334, D-6445	5x20ml	900	0,090	
FX	D-2622-LL-1100X-100ML	sulfur isoocat./toluene	D-2622, D-6334, D-6445	5x20ml	1100	0,110	
FX	D-2622-LL-1200X-100ML	sulfur isoocat./toluene	D-2622, D-6334, D-6445	5x20ml	1200	0,120	
							XRF film used for this application: Mylar, Hostaphan
1.10. Sulfur in Crude Oil Standards							
		Application		Qty	S µg/g	S %	
NIST	2721	Crude oil (Light-Sour)		5x10ml	0,0417	1,5832	
NIST	2722	Crude oil (Heavy-Sweet)		5x10ml	0,1292	0,21037	
Sulfur in Crude Oil Standards (ASTM D2622, D3120, D3246, D4294, D5453, D6334, D6445 and others)							
		Application		Qty	S µg/g	S %	
VHG	CRUDE-100	sulfur in crude oil		100ml	unspiked		
VHG	SCRD-1000-100	sulfur in crude oil		100ml	1000	0,100	
VHG	SCRD-2500-100	sulfur in crude oil		100ml	2500	0,250	
VHG	SCRD-5000-100	sulfur in crude oil		100ml	5000	0,500	
VHG	SCRD-1%-100	sulfur in crude oil		100ml	10000	1,00	
VHG	SCRD-2%-100	sulfur in crude oil		100ml	20000	2,00	
VHG	SCRD-3%-100	sulfur in crude oil		100ml	30000	3,00	
VHG	SCRD-4%-100	sulfur in crude oil		100ml	40000	4,00	
VHG	SCRD-5%-100	sulfur in crude oil		100ml	50000	5,00	
1.11. Sulfur in Residual Fuel Oil Standards							
		Application		Qty	S µg/g	S %	Hg µg/kg
NIST	1619b	sulfur in residual fuel oil		100ml	6960	0,6960	0,00346
NIST	1620c	sulfur in residual fuel oil		100ml	45610	4,5610	
NIST	1621e	sulfur in residual fuel oil		100ml	9480	0,9480	
NIST	1622e	sulfur in residual fuel oil		100ml	21468	2,1468	
NIST	1623c	sulfur in residual fuel oil		100ml	3806	0,3806	
NIST	2717a	sulfur in residual fuel oil		100ml	29957	2,9957	

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1.11. Sulfur in Residual Oil Standards (ASTM D2622, D3120, D3246, D4294, D5453, D6334, D6445 and others)						
Application				Qty	S µg/g	S %
VHG	SRES-2500-100	sulfur in residual oil		100ml	2500	0,250
VHG	SRES-5000-100	sulfur in residual oil		100ml	5000	0,500
VHG	SRES-1%-100	sulfur in residual oil		100ml	10000	1,00
VHG	SRES-2%-100	sulfur in residual oil		100ml	20000	2,00
VHG	SRES-3%-100	sulfur in residual oil		100ml	30000	3,00
VHG	SRES-4%-100	sulfur in residual oil		100ml	30000	4,00
VHG	SRES-5%-100	sulfur in residual oil		100ml	40000	5,00
1.12. Low Level Sulfur Calibration Standards for use on UV (ASTM D-3120-96, D-3246-96)						
Application				Qty	S µg/g	S %
FX	D-3120-92-CAL-1	sulfur isooct	only as set	1ml	0	0
FX	D-3120-92-CAL-2	sulfur isooct	only as set	1ml	1	0,0001
FX	D-3120-92-CAL-3	sulfur isooct	only as set	1ml	3	0,0003
FX	D-3120-92-CAL-4	sulfur isooct	only as set	1ml	10	0,0010
FX	D-3120-92-CAL-5	sulfur isooct	only as set	1ml	30	0,0030
FX	D-3120-92-CAL-6	sulfur isooct	only as set	1ml	50	0,0050
FX	D-3120-92-CAL-7	sulfur isooct	only as set	1ml	75	0,0075
FX	D-3120-92-CAL-8	sulfur isooct	only as set	1ml	100	0,0100
FX	D-3120-92-CAL-SET	sulfur isooct	set 8x	8x1ml		
1.13. Sulfur and Nitrogen Combined (Composition: Isooctane)						
Application				Qty	S µg/g	N ng/µL
VHG	SN-SET1	#1	only as set	2ml	1,0	1,0
VHG	SN-SET1	#2	only as set	2ml	5,0	5,0
VHG	SN-SET1	#3	only as set	2ml	10	20
VHG	SN-SET1	#4	only as set	2ml	15	35
VHG	SN-SET1	#5	only as set	2ml	20	50
VHG	SN-SET1	#6	only as set	2ml	0,0	0,0
1.14. Total Sulfur - Available in Sets of 5 Only, ASTM Method D5453 Sulfur in Liquid Petroleum Hydrocarbons by Ultraviolet Fluorescence Composition:						
Application				Qty	S ng/µL	
VHG	SUVF-SET-1	Range Set 1	only as set	2ml	1,0	
VHG	SUVF-SET-1	Range Set 1	only as set	2ml	2,5	
VHG	SUVF-SET-1	Range Set 1	only as set	2ml	5,0	
VHG	SUVF-SET-1	Range Set 1	only as set	2ml	7,5	
VHG	SUVF-SET-1	Range Set 1	only as set	2ml	10	
VHG	SUVF-SET-2	Range Set 2	only as set	2ml	5,0	
VHG	SUVF-SET-2	Range Set 2	only as set	2ml	25	
VHG	SUVF-SET-2	Range Set 2	only as set	2ml	50	
VHG	SUVF-SET-2	Range Set 2	only as set	2ml	100	
VHG	SUVF-SET-2	Range Set 2	only as set	2ml	200	
VHG	SUVF-SET-3	Range Set 3	only as set	2ml	100	
VHG	SUVF-SET-3	Range Set 3	only as set	2ml	250	
VHG	SUVF-SET-3	Range Set 3	only as set	2ml	500	
VHG	SUVF-SET-3	Range Set 3	only as set	2ml	750	
VHG	SUVF-SET-3	Range Set 3	only as set	2ml	1000	

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1.15. Sulfur by Ratiometric Colorimetry, ASTM method D4045 & D2612 - Sulfur by Hydrogenolysis, Ratiometric Colorimetry						
		Application		Qty	S µg/g	S %
VHG	SRC-SET1A	Isooctane	only as a set	2ml	0,1	0,00001
VHG	SRC-SET1A	Isooctane	only as a set	2ml	0,5	0,00005
VHG	SRC-SET1A	Isooctane	only as a set	2ml	1,0	0,0001
VHG	SRC-SET1A	Isooctane	only as a set	2ml	2,5	0,00025
VHG	SRC-SET1A	Isooctane	only as a set	2ml	5,0	0,0005
VHG	SRC-SET1A	Isooctane	only as a set	2ml	10	0,0010
1.16. UOP 163, ASTM; D3227, Determination of Mercaptan and Hydrogen Sulfide Sulfur						
		Application		Qty	S µg/g	S %
VHG	UOP163-30-6X20	sulfur in mineral oil		20ml	30	0,0030
Standards are prepared in a mixture of Isooctane/Toluene to determine inflection points during the potentiometric titration of hydrogen sulfide and mercaptan sulfur in hydrocarbon liquids. The mercaptan standards are prepared with tert-nonyl mercaptan.						
1.17. Matrix Oil and Solvents (<1ppm Sulfur for the preparation of working standards for petroleum analysis)						
		Application		Qty		
VHG	OIL-20MIN-500	20 cSt Mineral Oil		500ml		
VHG	OIL-20MIN-1/2GAL	20 cSt Mineral Oil		0,5 gal.		
VHG	OIL-MIN-500	75 cSt Mineral Oil		500ml		
VHG	OIL-MIN-1/2GAL	75 cSt Mineral Oil		0,5 gal.		
VHG	ULSDSL-500	#2 Diesel Fuel		500ml		
VHG	ULSDSL-1/2GAL	#2 Diesel Fuel		0,5 gal.		
VHG	ISO-500	Isooctane		500ml		
VHG	ISO-1/2GAL	Isooctane		0,5 gal.		
VHG	KERO-500	Kerosene		500ml		
VHG	KERO-1/2GAL	Kerosene		0,5 gal.		

2. Iron, Nickel, Vanadium, Sulfur

2.1. Sulfur and Metals in Mineral Oil					% S	µg/g Fe	µg/g Ni	µg/g V
		Application		Qty				
FX	ASTM-P-0102-01	Fe, Ni, V, S	mineral oil	100ml	0	0	0	0
FX	ASTM-P-0102-02	Fe, Ni, V, S	mineral oil	100ml	0,5	300	10	500
FX	ASTM-P-0102-03	Fe, Ni, V, S	mineral oil	100ml	1,0	500	100	25
FX	ASTM-P-0102-04	Fe, Ni, V, S	mineral oil	100ml	0	100	80	250
FX	ASTM-P-0102-05	Fe, Ni, V, S	mineral oil	100ml	2,0	200	40	100
FX	ASTM-P-0102-06	Fe, Ni, V, S	mineral oil	100ml	2,5	400	5	400
FX	ASTM-P-0102-07	Fe, Ni, V, S	mineral oil	100ml	3,0	0	60	300
FX	ASTM-P-0102-08	Fe, Ni, V, S	mineral oil	100ml	3,5	500	0	200
FX	ASTM-P-0102-09	Fe, Ni, V, S	mineral oil	100ml	0	100	100	0
FX	ASTM-P-0102-10	Fe, Ni, V, S	mineral oil	100ml	4,5	300	50	250
FX	ASTM-P-0102-11	Fe, Ni, V, S	mineral oil	100ml	5,0	200	20	500
FX	ASTM-P-0102-12	Fe, Ni, V, S	mineral oil	100ml	5,5	50	100	50
FX	ASTM-P-0102-SET	set 12x	mineral oil					

Sulfur and Metals in Mineral Oil					% S	µg/g Fe	µg/g Ni	µg/g V
		Application		Qty				
VHG	SMOIL1-100	Fe, Ni, V, S	mineral oil	100ml	0	0	0	0
VHG	SMOIL2-100	Fe, Ni, V, S	mineral oil	100ml	2,5	400	100	250
VHG	SMOIL3-100	Fe, Ni, V, S	mineral oil	100ml	0,5	300	10	500
VHG	SMOIL4-100	Fe, Ni, V, S	mineral oil	100ml	1,0	0	80	350
VHG	SMOIL5-100	Fe, Ni, V, S	mineral oil	100ml	4,5	250	60	100
VHG	SMOIL6-100	Fe, Ni, V, S	mineral oil	100ml	4,0	350	30	200
VHG	SMOIL7-100	Fe, Ni, V, S	mineral oil	100ml	3,5	200	50	0
VHG	SMOIL8-100	Fe, Ni, V, S	mineral oil	100ml	5,5	50	40	400
VHG	SMOIL9-100	Fe, Ni, V, S	mineral oil	100ml	2,0	450	20	300
VHG	SMOIL10-100	Fe, Ni, V, S	mineral oil	100ml	1,5	500	5	150
VHG	SMOIL11-100	Fe, Ni, V, S	mineral oil	100ml	3,0	150	70	25
VHG	SMOIL12-100	Fe, Ni, V, S	mineral oil	100ml	5,0	100	0	50
VHG	SMOILSET-12x100	set 12x	mineral oil					

2.2. Sulfur and Metals in Residual Fuel Oil					% S	µg/g Fe	µg/g Ni	µg/g V
		Application		Qty				
FX	ASTM-P-0103-01	Fe, Ni, V, S	residual oil	100ml	0	0	0	0
FX	ASTM-P-0103-02	Fe, Ni, V, S	residual oil	100ml	0,5	300	10	500
FX	ASTM-P-0103-03	Fe, Ni, V, S	residual oil	100ml	1,0	500	100	25
FX	ASTM-P-0103-04	Fe, Ni, V, S	residual oil	100ml	0	100	80	250
FX	ASTM-P-0103-05	Fe, Ni, V, S	residual oil	100ml	2,0	200	40	100
FX	ASTM-P-0103-06	Fe, Ni, V, S	residual oil	100ml	2,5	400	5	400
FX	ASTM-P-0103-07	Fe, Ni, V, S	residual oil	100ml	3,0	0	60	300
FX	ASTM-P-0103-08	Fe, Ni, V, S	residual oil	100ml	3,5	500	0	200
FX	ASTM-P-0103-09	Fe, Ni, V, S	residual oil	100ml	0	100	100	0
FX	ASTM-P-0103-10	Fe, Ni, V, S	residual oil	100ml	4,5	300	50	250
FX	ASTM-P-0103-11	Fe, Ni, V, S	residual oil	100ml	5,0	200	20	500
FX	ASTM-P-0103-12	Fe, Ni, V, S	residual oil	100ml	5,5	50	100	50
FX	ASTM-P-0103-SET	set 12x	residual oil					

3. Nickel, Vanadium, Sulfur

3.1. Sulfur and Metals in Mineral Oil					%	µg/g	µg/g
		Application		Qty	S	Ni	V
FX	ASTM-P-0100-01	Ni, V, S	mineral oil	100ml	0	0	0
FX	ASTM-P-0100-02	Ni, V, S	mineral oil	100ml	0,5	10	500
FX	ASTM-P-0100-03	Ni, V, S	mineral oil	100ml	1,0	100	25
FX	ASTM-P-0100-04	Ni, V, S	mineral oil	100ml	1,5	80	250
FX	ASTM-P-0100-05	Ni, V, S	mineral oil	100ml	2,0	40	100
FX	ASTM-P-0100-06	Ni, V, S	mineral oil	100ml	2,5	5	400
FX	ASTM-P-0100-07	Ni, V, S	mineral oil	100ml	3,0	60	300
FX	ASTM-P-0100-08	Ni, V, S	mineral oil	100ml	3,5	0	200
FX	ASTM-P-0100-09	Ni, V, S	mineral oil	100ml	4,0	100	0
FX	ASTM-P-0100-10	Ni, V, S	mineral oil	100ml	4,5	50	250
FX	ASTM-P-0100-11	Ni, V, S	mineral oil	100ml	5,0	20	500
FX	ASTM-P-0100-12	Ni, V, S	mineral oil	100ml	5,5	100	50
FX	ASTM-P-0100-SET	Set 12x	mineral oil				

3.2. Sulfur and Metals in Residual oil					%	µg/g	µg/g
		Application		Qty	S	Ni	V
FX	ASTM-P-0101-01	Ni, V, S	residual oil	100ml	0	0	0
FX	ASTM-P-0101-02	Ni, V, S	residual oil	100ml	0,5	10	500
FX	ASTM-P-0101-03	Ni, V, S	residual oil	100ml	1,0	100	25
FX	ASTM-P-0101-04	Ni, V, S	residual oil	100ml	1,5	80	250
FX	ASTM-P-0101-05	Ni, V, S	residual oil	100ml	2,0	40	100
FX	ASTM-P-0101-06	Ni, V, S	residual oil	100ml	2,5	5	400
FX	ASTM-P-0101-07	Ni, V, S	residual oil	100ml	3,0	60	300
FX	ASTM-P-0101-08	Ni, V, S	residual oil	100ml	3,5	0	200
FX	ASTM-P-0101-09	Ni, V, S	residual oil	100ml	4,0	100	0
FX	ASTM-P-0101-10	Ni, V, S	residual oil	100ml	4,5	50	250
FX	ASTM-P-0101-11	Ni, V, S	residual oil	100ml	5,0	20	500
FX	ASTM-P-0101-12	Ni, V, S	residual oil	100ml	5,5	100	50
FX	ASTM-P-0101-SET	Set 12x	residual oil				

4. Nickel, Vanadium

4.1. Vanadium and Nickel Standards with Manganese Internal Standard for ISO/CD 14597 Low Range for ISO/CD 14597 with 0.05% Manganese Internal Standard						
		Application		Qty	Unit	V
FX	ASTM-P-0104-01	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0005
FX	ASTM-P-0104-02	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0025
FX	ASTM-P-0104-03	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0050
FX	ASTM-P-0104-04	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0075
FX	ASTM-P-0104-05	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0100
FX	ASTM-P-0104-06	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0125
FX	ASTM-P-0104-07	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0150
FX	ASTM-P-0104-08	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0175
FX	ASTM-P-0104-09	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0200
FX	ASTM-P-0104-SET	Set 9x	xylene/mineral oil			
4.2. Vanadium Standards - High Range for ISO/CD 14597 with 0.05% Manganese Internal Standard						
		Application		Qty	Unit	V
FX	ASTM-P-0105-01	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0000
FX	ASTM-P-0105-02	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0300
FX	ASTM-P-0105-03	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0400
FX	ASTM-P-0105-04	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0500
FX	ASTM-P-0105-05	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0600
FX	ASTM-P-0105-06	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,0800
FX	ASTM-P-0105-07	V + 0.05% Mn	xylene/mineral oil	100ml	%	0,1000
FX	ASTM-P-0105-SET	Set 7x	xylene/mineral oil			
XRF film used for this application: Mylar, Hostaphan						
4.3. Nickel Standards for ISO/CD 14597 with 0.05% Manganese Internal Standard						
		Application		Qty	Unit	Ni
FX	ASTM-P-0106-01	Ni + 0.05% Mn	xylene/mineral oil	100ml	%	0,0000
FX	ASTM-P-0106-02	Ni + 0.05% Mn	xylene/mineral oil	100ml	%	0,0005
FX	ASTM-P-0106-03	Ni + 0.05% Mn	xylene/mineral oil	100ml	%	0,0010
FX	ASTM-P-0106-04	Ni + 0.05% Mn	xylene/mineral oil	100ml	%	0,0025
FX	ASTM-P-0106-05	Ni + 0.05% Mn	xylene/mineral oil	100ml	%	0,0050
FX	ASTM-P-0106-06	Ni + 0.05% Mn	xylene/mineral oil	100ml	%	0,0075
FX	ASTM-P-0106-07	Ni + 0.05% Mn	xylene/mineral oil	100ml	%	0,0100
FX	ASTM-P-0106-SET	Set 7x	xylene/mineral oil			
4.4. Internal Standard, Manganese @ 0.05 Wt. % in Xylene-Mineral Oil						
		Application		Qty		
FX	ASTM-P-0107-5	ISO/CD 14597	Manganese Internal Std	500ml		
XRF film used for this application: Mylar, Hostaphan						

5. Chlorine

5.1. Chlorine in Oil, For ICP, XRF and Other Techniques				µg/g	%
		Application	Qty	Cl	Cl
VHG	CLOIL-BLK-100	chlorine in heavy mineral oil	100ml	0	0,0000
VHG	CLOIL-10-100	chlorine in heavy mineral oil	100ml	10	0,0010
VHG	CLOIL-100-100	chlorine in heavy mineral oil	100ml	100	0,0100
VHG	CLOIL-500-100	chlorine in heavy mineral oil	100ml	500	0,0500
VHG	CLOIL-1000-100	chlorine in heavy mineral oil	100ml	1000	0,1000
VHG	CLOIL-1%-100	chlorine in heavy mineral oil	100ml	10000	1,0000
VHG	CLOIL-5%-100	chlorine in heavy mineral oil	100ml	50000	5,0000
CON	150-200-008	Chlorine in oil	100g	0	0,0000
CON	150-200-001	Chlorine in oil	100g	10	0,0010
CON	150-200-002	Chlorine in oil	100g	100	0,0100
CON	150-200-005	Chlorine in oil	100g	500	0,0500
CON	150-200-003	Chlorine in oil	100g	1000	0,1000
CON	150-200-006	Chlorine in oil	100g	5000	0,5000
CON	150-200-004	Chlorine in oil	100g	10000	1,0000
CON	150-200-007	Chlorine in oil	100g	50000	5,0000

6. Lead in Gasoline

6.1. Lead in Isooctane Standards for XRF (ASTM D5059)				µg/g	%
		Application	Qty	Pb	Pb
VHG	PBISO-BLK-100G	Lead in Gasoline	5 x 20ml	0	0,0000
VHG	PBISO-0,1-100G	Lead in Gasoline	5 x 20ml	37	0,0037
VHG	PBISO-1-100G	Lead in Gasoline	5 x 20ml	370	0,0370
VHG	PBISO-2-100G	Lead in Gasoline	5 x 20ml	740	0,0740
VHG	PBISO-3-100G	Lead in Gasoline	5 x 20ml	1110	0,1110
VHG	PBISO-4-100G	Lead in Gasoline	5 x 20ml	1480	0,1480
VHG	PBISO-5-100G	Lead in Gasoline	5 x 20ml	18520	1,8520
VHG	PBISOSETA-7x100G	Lead in Gasoline	Set	...	...
VHG	PBISO-BLK-100G	Lead in Gasoline	5 x 20ml	0	0,0000
VHG	PBISO-0,001-100G	Lead in Gasoline	5 x 20ml	0,37	0,000037
VHG	PBISO-0,005-100G	Lead in Gasoline	5 x 20ml	1,85	0,000185
VHG	PBISO-0,010-100G	Lead in Gasoline	5 x 20ml	3,7	0,000370
VHG	PBISO-0,050-100G	Lead in Gasoline	5 x 20ml	18,5	0,001850
VHG	PBISO-0,100-100G	Lead in Gasoline	5 x 20ml	37	0,0037
VHG	PBISO-0,300-100G	Lead in Gasoline	5 x 20ml	111	0,0111
VHG	PBISOSETC-7x100G	Lead in Gasoline	Set	...	...
6.2. Bismuth Internal Standard for ASTM D5059				g/L	
		Application	Remarks	Qty	Bi
VHG	BIIS-100G	Bismuth in Mineral Oil	ASTM D5059 Pt. A and C	100g	0,793
VHG	BIIS-400G	Bismuth in Mineral Oil	ASTM D5059 Pt. A and C	400g	0,793

7. Organometallic Single-Element Standards

7.1. Organometallic Single-Element Concentrates, stabilized, Sulfur/Phosphorous free (< 1 ppm)							
		Application	Remarks	Qty	Unit	Elements	Conc.
FX	WM-NMS-01-30X-25G	oil concentrates	with trace analysis	25g	%	Aluminum	3,0
FX	WM-NMS-02-20X-25G	oil concentrates	with trace analysis	25g	%	Antimony	2,0
FX	WM-NMS-04-125X-25G	oil concentrates	with trace analysis	25g	%	Barium	12,5
VHG	ROSFBA13-25G	oil concentrates	with trace analysis	25g	%	Barium	13,0
VHG	ROSFBI5-25G	oil concentrates	with trace analysis	25g	%	Bismuth	5,0
VHG	ROSFBI3-25G	oil concentrates	with trace analysis	25g	%	Boron	3,0
FX	WM-NMS-08-100X-25G	oil concentrates	with trace analysis	25g	%	Cadmium	10,0
FX	WM-NMS-09-50X-25G	oil concentrates	with trace analysis	25g	%	Calcium	5,0
FX	WM-NMS-11-50X-25G	oil concentrates	with trace analysis	25g	%	Cerium	5,0
VHG	ROSFCE12-25G	oil concentrates	with trace analysis	25g	%	Cerium	12,0
VHG	ROSFCE2-25G	oil concentrates	with trace analysis	25g	%	Chromium	2,0
FX	WM-NMS-13-35X-25G	oil concentrates	with trace analysis	25g	%	Chromium	3,5
VHG	ROSFCE6-25G	oil concentrates	with trace analysis	25g	%	Cobalt	6,0
FX	WM-NMS-14-75X-25G	oil concentrates	with trace analysis	25g	%	Cobalt	7,5
VHG	ROSFCE3-25G	oil concentrates	with trace analysis	25g	%	Copper	3,0
FX	WM-NMS-15-60X-25G	oil concentrates	with trace analysis	25g	%	Copper	6,0
FX	WM-NMS-27-40X-25G	oil concentrates	with trace analysis	25g	%	Iron	4,0
FX	WM-NMS-29-200X-25G	oil concentrates	with trace analysis	25g	%	Lead	20,0
FX	WM-NMS-30-15X-25G	oil concentrates	with trace analysis	25g	%	Lithium	1,5
VHG	ROSFCE12-25G	oil concentrates	with trace analysis	25g	%	Lithium	2,0
FX	WM-NMS-32-30X-25G	oil concentrates	with trace analysis	25g	%	Magnesium	3,0
VHG	ROSFCE6-25G	oil concentrates	with trace analysis	25g	%	Manganese	6,0
FX	WM-NMS-35-50X-25G	oil concentrates	with trace analysis	25g	%	Molybdenum	5,0
FX	WM-NMS-37-50X-25G	oil concentrates	with trace analysis	25g	%	Nickel	5,0
VHG	ROSFCE8-25G	oil concentrates	with trace analysis	25g	%	Nickel	8,0
FX	WM-NMS-41-50X-25G	oil concentrates	with trace analysis	25g	%	Phosphorus	5,0
VHG	ROSFCE11-25G	oil concentrates	with trace analysis	25g	%	Phosphorus	11,0
VHG	ROSFCE5-25G	oil concentrates	with trace analysis	25g	%	Potassium	5,0
FX	WM-NMS-43-75X-25G	oil concentrates	with trace analysis	25g	%	Potassium	7,5
FX	WM-NMS-44-30X-25G	oil concentrates	with trace analysis	25g	%	Praseodymium	3,0
FX	WM-NMS-51-35X-25G	oil concentrates	with trace analysis	25g	%	Selenium	3,5
FX	WM-NMS-52-75X-25G	oil concentrates	with trace analysis	25g	%	Silicon	7,5
VHG	ROSFCE18-25G	oil concentrates	with trace analysis	25g	%	Silicon	18,0
VHG	ROSFCE1-25G	oil concentrates	with trace analysis	25g	%	Silver	1,0
FX	WM-NMS-54-25X-25G	oil concentrates	with trace analysis	25g	%	Sodium	2,5
VHG	ROSFCE3-25G	oil concentrates	with trace analysis	25g	%	Sodium	3,0
VHG	ROSFCE9-25G	oil concentrates	with trace analysis	25g	%	Strontium	9,0
FX	WM-NMS-55-100X-25G	oil concentrates	with trace analysis	25g	%	Strontium	10,0
VHG	ROSFCE11-25G	oil concentrates	with trace analysis	25g	%	Thallium	1,0
FX	WM-NMS-60-50X-25G	oil concentrates	with trace analysis	25g	%	Thallium	5,0
FX	WM-NMS-63-75X-25G	oil concentrates	with trace analysis	25g	%	Tin	7,5
VHG	ROSFCE13-25G	oil concentrates	with trace analysis	25g	%	Tin	13,0
FX	WM-NMS-64-50X-25G	oil concentrates	with trace analysis	25g	%	Titanium	5,0
VHG	ROSFCE10-25G	oil concentrates	with trace analysis	25g	%	Titanium	10,0
FX	WM-NMS-67-40X-25G	oil concentrates	with trace analysis	25g	%	Vanadium	2,0
FX	WM-NMS-69-25X-25G	oil concentrates	with trace analysis	25g	%	Yttrium	2,5
VHG	ROSFCE3-25G	oil concentrates	with trace analysis	25g	%	Yttrium	3,0
FX	WM-NMS-70-60X-25G	oil concentrates	with trace analysis	25g	%	Zinc	6,0
FX	WM-NMS-71-50X-25G	oil concentrates	with trace analysis	25g	%	Zirconium	5,0
VHG	ROSFCE2-25G	oil concentrates	with trace analysis	25g	%	Zirconium	24,0

7. Organometallic Single-Element Standards

7.1. Organometallic Single-Element Concentrates, stabilized, Sulfur/Phosphorous free (< 1 ppm)							
		Application	Remarks	Qty	Unit	Elements	Conc.
FX	WM-NMS-01-30X-50G	oil concentrates	with trace analysis	50g	%	Aluminum	3,0
FX	WM-NMS-02-20X-50G	oil concentrates	with trace analysis	50g	%	Antimony	2,0
FX	WM-NMS-04-125X-50G	oil concentrates	with trace analysis	50g	%	Barium	12,5
VHG	ROSFBA13-100G	oil concentrates	with trace analysis	100g	%	Barium	13,0
VHG	ROSFBI5-100G	oil concentrates	with trace analysis	100g	%	Bismuth	5,0
VHG	ROSFBI3-100G	oil concentrates	with trace analysis	100g	%	Boron	3,0
FX	WM-NMS-08-100X-50G	oil concentrates	with trace analysis	50g	%	Cadmium	10,0
FX	WM-NMS-09-50X-50G	oil concentrates	with trace analysis	50g	%	Calcium	5,0
FX	WM-NMS-11-50X-50G	oil concentrates	with trace analysis	50g	%	Cerium	5,0
VHG	ROSFCE12-100G	oil concentrates	with trace analysis	100g	%	Cerium	12,0
VHG	ROSFCE2-100G	oil concentrates	with trace analysis	100g	%	Chromium	2,0
FX	WM-NMS-13-35X-50G	oil concentrates	with trace analysis	50g	%	Chromium	2,5
VHG	ROSFCE6-100G	oil concentrates	with trace analysis	100g	%	Cobalt	6,0
FX	WM-NMS-14-75X-50G	oil concentrates	with trace analysis	50g	%	Cobalt	7,5
VHG	ROSFCE3-100G	oil concentrates	with trace analysis	100g	%	Copper	3,0
FX	WM-NMS-15-60X-50G	oil concentrates	with trace analysis	50g	%	Copper	6,0
FX	WM-NMS-27-40X-50G	oil concentrates	with trace analysis	50g	%	Iron	4,0
FX	WM-NMS-29-200X-50G	oil concentrates	with trace analysis	50g	%	Lead	20,0
FX	WM-NMS-30-15X-50G	oil concentrates	with trace analysis	50g	%	Lithium	1,5
VHG	ROSFCE12-100G	oil concentrates	with trace analysis	100g	%	Lithium	2,0
FX	WM-NMS-32-30X-50G	oil concentrates	with trace analysis	50g	%	Magnesium	3,0
VHG	ROSFCE6-100G	oil concentrates	with trace analysis	100g	%	Manganese	6,0
FX	WM-NMS-35-50X-50G	oil concentrates	with trace analysis	50g	%	Molybdenum	5,0
FX	WM-NMS-37-50X-50G	oil concentrates	with trace analysis	50g	%	Nickel	5,0
VHG	ROSFCE8-100G	oil concentrates	with trace analysis	100g	%	Nickel	8,0
FX	WM-NMS-41-50X-50G	oil concentrates	with trace analysis	50g	%	Phosphorus	5,0
VHG	ROSFCE11-100G	oil concentrates	with trace analysis	100g	%	Phosphorus	11,0
VHG	ROSFCE5-100G	oil concentrates	with trace analysis	100g	%	Potassium	5,0
FX	WM-NMS-43-75X-50G	oil concentrates	with trace analysis	50g	%	Potassium	7,5
FX	WM-NMS-44-30X-50G	oil concentrates	with trace analysis	50g	%	Praseodymium	3,0
FX	WM-NMS-51-35X-50G	oil concentrates	with trace analysis	50g	%	Selenium	3,5
FX	WM-NMS-52-75X-50G	oil concentrates	with trace analysis	50g	%	Silicon	7,5
VHG	ROSFCE18-100G	oil concentrates	with trace analysis	100g	%	Silicon	18,0
VHG	ROSFCE1-100G	oil concentrates	with trace analysis	100g	%	Silver	1,0
FX	WM-NMS-54-25X-50G	oil concentrates	with trace analysis	50g	%	Sodium	2,5
VHG	ROSFCE3-100G	oil concentrates	with trace analysis	100g	%	Sodium	3,0
VHG	ROSFCE9-100G	oil concentrates	with trace analysis	100g	%	Strontium	9,0
FX	WM-NMS-55-100X-50G	oil concentrates	with trace analysis	50g	%	Strontium	10,0
VHG	ROSFCE11-100G	oil concentrates	with trace analysis	100g	%	Thallium	1,0
FX	WM-NMS-60-50X-50G	oil concentrates	with trace analysis	50g	%	Thallium	5,0
VHG	ROSFCE13-100G	oil concentrates	with trace analysis	100g	%	Tin	13,0
FX	WM-NMS-64-50X-50G	oil concentrates	with trace analysis	50g	%	Titanium	5,0
VHG	ROSFCE10-100G	oil concentrates	with trace analysis	100g	%	Titanium	10,0
FX	WM-NMS-67-40X-50G	oil concentrates	with trace analysis	50g	%	Vanadium	2,0
FX	WM-NMS-69-25X-50G	oil concentrates	with trace analysis	50g	%	Yttrium	2,5
VHG	ROSFCE3-100G	oil concentrates	with trace analysis	100g	%	Yttrium	3,0
FX	WM-NMS-70-60X-50G	oil concentrates	with trace analysis	50g	%	Zinc	6,0
FX	WM-NMS-71-50X-50G	oil concentrates	with trace analysis	50g	%	Zirconium	5,0
VHG	ROSFCE24-100G	oil concentrates	with trace analysis	100g	%	Zirconium	24,0

7. Organometallic Single-Element Standards

7.2. Organometallic Single-Element Standards, stabilized, Sulfur free (< 1 ppm), 1000 µg/g							
		Application	Remarks	Qty	Unit	Elements	Conc.
VHG	OSF-AL-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Aluminum	1000
VHG	OSF-SB-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Antimony	1000
VHG	OSF-AS-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Arsenic	1000
VHG	OSF-BA-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Barium	1000
VHG	OSF-BI-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Bismuth	1000
VHG	OSF-B-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Boron	1000
VHG	OSF-BE-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Beryllium	1000
VHG	OSF-CD-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Cadmium	1000
VHG	OSF-CA-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Calcium	1000
VHG	OSF-CE-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Cerium	1000
VHG	OSF-CR-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Chromium	1000
VHG	OSF-CO-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Cobalt	1000
VHG	OSF-CU-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Copper	1000
VHG	OSF-GA-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Gallium	1000
VHG	OSF-AU-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Gold	1000
VHG	OSF-FE-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Iron	1000
VHG	OSF-PB-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Lead	1000
VHG	OSF-LI-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Lithium	1000
VHG	OSF-MG-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Magnesium	1000
VHG	OSF-MN-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Manganese	1000
VHG	OSF-HG-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Mercury	1000
VHG	OSF-MO-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Molybdenum	1000
VHG	OSF-NI-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Nickel	1000
VHG	OSF-P-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Phosphorus	1000
VHG	OSF-SE-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Selenium	1000
VHG	OSF-SI-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Silicon	1000
VHG	OSF-AG-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Silver	1000
VHG	OSF-NA-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Sodium	1000
VHG	OSF-SR-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Strontium	1000
VHG	OSF-TL-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Thallium	1000
VHG	OSF-SN-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Tin	1000
VHG	OSF-TI-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Titanium	1000
VHG	OSF-V-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Vanadium	1000
VHG	OSF-Y-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Yttrium	1000
VHG	OSF-ZN-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Zinc	1000
VHG	OSF-ZR-1000-50G	single element RM	for XRF and ICP	50g	µg/g	Zirconium	1000
7.3. Organometallic Single-Element Standards, stabilized, Sulfur free (< 1 ppm), 5000 µg/g							
		Application	Remarks	Quantity	Unit	Elements	Conc.
VHG	OSF-AL-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Aluminum	5000
VHG	OSF-SB-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Antimony	5000
VHG	OSF-BA-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Barium	5000
VHG	OSF-BI-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Bismuth	5000
VHG	OSF-B-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Boron	5000
VHG	OSF-BE-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Beryllium	5000
VHG	OSF-CD-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Cadmium	5000
VHG	OSF-CA-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Calcium	5000
VHG	OSF-CE-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Cerium	5000
VHG	OSF-CR-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Chromium	5000
VHG	OSF-CO-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Cobalt	5000

7. Organometallic Single-Element Standards

7.3. Organometallic Single-Element Standards, stabilized, Sulfur free (< 1 ppm), 5000 µg/g							
		Application	Remarks	Quantity	Unit	Elements	Conc.
VHG	OSF-CU-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Copper	5000
VHG	OSF-GA-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Gallium	5000
VHG	OSF-FE-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Iron	5000
VHG	OSF-PB-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Lead	5000
VHG	OSF-LI-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Lithium	5000
VHG	OSF-MG-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Magnesium	5000
VHG	OSF-MN-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Manganese	5000
VHG	OSF-MO-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Molybdenum	5000
VHG	OSF-NI-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Nickel	5000
VHG	OSF-P-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Phosphorus	5000
VHG	OSF-SE-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Selenium	5000
VHG	OSF-SI-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Silicon	5000
VHG	OSF-AG-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Silver	5000
VHG	OSF-NA-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Sodium	5000
VHG	OSF-SR-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Strontium	5000
VHG	OSF-SN-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Tin	5000
VHG	OSF-TI-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Titanium	5000
VHG	OSF-V-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Vanadium	5000
VHG	OSF-ZN-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Zinc	5000
VHG	OSF-ZR-5000-50G	single element RM	for XRF and ICP	50g	µg/g	Zirconium	5000
7.4. Organometallic Single-Element Standards in hydrocarbon oil, 1000 µg/g							
		Application	Remarks	Quantity	Unit	Elements	Conc.
VHG	OAL-1000-50G	single element RM	for XRF and AA	50g	µg/g	Aluminium	1000
VHG	OSB-1000-50G	single element RM	for XRF and AA	50g	µg/g	Antimony	1000
VHG	OAS-1000-50G	single element RM	for XRF and AA	50g	µg/g	Arsenic	1000
VHG	OBA-1000-50G	single element RM	for XRF and AA	50g	µg/g	Barium	1000
VHG	OBE-1000-50G	single element RM	for XRF and AA	50g	µg/g	Beryllium	1000
VHG	OBI-1000-50G	single element RM	for XRF and AA	50g	µg/g	Bismuth	1000
VHG	OB-1000-50G	single element RM	for XRF and AA	50g	µg/g	Boron	1000
VHG	OCD-1000-50G	single element RM	for XRF and AA	50g	µg/g	Cadmium	1000
VHG	OCA-1000-50G	single element RM	for XRF and AA	50g	µg/g	Calcium	1000
VHG	OCR-1000-50G	single element RM	for XRF and AA	50g	µg/g	Chromium	1000
VHG	OCO-1000-50G	single element RM	for XRF and AA	50g	µg/g	Cobalt	1000
VHG	OCU-1000-50G	single element RM	for XRF and AA	50g	µg/g	Copper	1000
VHG	OFE-1000-50G	single element RM	for XRF and AA	50g	µg/g	Iron	1000
VHG	OLA-1000-50G	single element RM	for XRF and AA	50g	µg/g	Lanthanum	1000
VHG	OPB-1000-50G	single element RM	for XRF and AA	50g	µg/g	Lead	1000
VHG	OLI-1000-50G	single element RM	for XRF and AA	50g	µg/g	Lithium	1000
VHG	OMG-1000-50G	single element RM	for XRF and AA	50g	µg/g	Magnesium	1000
VHG	OMN-1000-50G	single element RM	for XRF and AA	50g	µg/g	Manganese	1000
VHG	OHG-1000-50G	single element RM	for XRF and AA	50g	µg/g	Mercury	1000
VHG	OMO-1000-50G	single element RM	for XRF and AA	50g	µg/g	Molybdenum	1000
VHG	ONI-1000-50G	single element RM	for XRF and AA	50g	µg/g	Nickel	1000
VHG	OP-1000-50G	single element RM	for XRF and AA	50g	µg/g	Phosphorus	1000
VHG	OK-1000-50G	single element RM	for XRF and AA	50g	µg/g	Potassium	1000
VHG	OSC-1000-50G	single element RM	for XRF and AA	50g	µg/g	Scandium	1000
VHG	OSE-1000-50G	single element RM	for XRF and AA	50g	µg/g	Selenium	1000
VHG	OSI-1000-50G	single element RM	for XRF and AA	50g	µg/g	Silicon	1000
VHG	OAG-1000-50G	single element RM	for XRF and AA	50g	µg/g	Silver	1000
VHG	ONA-1000-50G	single element RM	for XRF and AA	50g	µg/g	Sodium	1000

7. Organometallic Single-Element Standards

7.4. Organometallic Single-Element Standards in hydrocarbon oil, 1000 µg/g							
		Application	Remarks	Qty	Unit	Elements	Conc.
VHG	OSR-1000-50G	single element RM	for XRF and AA	50g	µg/g	Strontium	1000
VHG	OS-1000-50G	single element RM	for XRF and AA	50g	µg/g	Sulfur	1000
VHG	OTL-1000-50G	single element RM	for XRF and AA	50g	µg/g	Thallium	1000
VHG	OSN-1000-50G	single element RM	for XRF and AA	50g	µg/g	Tin	1000
VHG	OTI-1000-50G	single element RM	for XRF and AA	50g	µg/g	Titanium	1000
VHG	OV-1000-50G	single element RM	for XRF and AA	50g	µg/g	Vanadium	1000
VHG	OY-1000-50G	single element RM	for XRF and AA	50g	µg/g	Yttrium	1000
VHG	OZN-1000-50G	single element RM	for XRF and AA	50g	µg/g	Zinc	1000
VHG	OZR-1000-50G	single element RM	for XRF and AA	50g	µg/g	Zirconium	1000
7.5. Organometallic Single-Element Standards in hydrocarbon oil, 5000 µg/g							
		Application	Remarks	Quantity	Unit	Elements	Conc.
VHG	OAL-5000-50G	single element RM	for XRF and AA	50g	µg/g	Aluminium	5000
VHG	OSB-5000-50G	single element RM	for XRF and AA	50g	µg/g	Antimony	5000
VHG	OBA-5000-50G	single element RM	for XRF and AA	50g	µg/g	Barium	5000
VHG	OBI-5000-50G	single element RM	for XRF and AA	50g	µg/g	Bismuth	5000
VHG	OB-5000-50G	single element RM	for XRF and AA	50g	µg/g	Boron	5000
VHG	OCD-5000-50G	single element RM	for XRF and AA	50g	µg/g	Cadmium	5000
VHG	OCA-5000-50G	single element RM	for XRF and AA	50g	µg/g	Calcium	5000
VHG	OCR-5000-50G	single element RM	for XRF and AA	50g	µg/g	Chromium	5000
VHG	OCO-5000-50G	single element RM	for XRF and AA	50g	µg/g	Cobalt	5000
VHG	OCU-5000-50G	single element RM	for XRF and AA	50g	µg/g	Copper	5000
VHG	OFE-5000-50G	single element RM	for XRF and AA	50g	µg/g	Iron	5000
VHG	OPB-5000-50G	single element RM	for XRF and AA	50g	µg/g	Lead	5000
VHG	OLI-5000-50G	single element RM	for XRF and AA	50g	µg/g	Lithium	5000
VHG	OMG-5000-50G	single element RM	for XRF and AA	50g	µg/g	Magnesium	5000
VHG	OMN-5000-50G	single element RM	for XRF and AA	50g	µg/g	Manganese	5000
VHG	OMO-5000-50G	single element RM	for XRF and AA	50g	µg/g	Molybdenum	5000
VHG	ONI-5000-50G	single element RM	for XRF and AA	50g	µg/g	Nickel	5000
VHG	OP-5000-50G	single element RM	for XRF and AA	50g	µg/g	Phosphorus	5000
VHG	OK-5000-50G	single element RM	for XRF and AA	50g	µg/g	Potassium	5000
VHG	OSE-5000-50G	single element RM	for XRF and AA	50g	µg/g	Selenium	5000
VHG	OSI-5000-50G	single element RM	for XRF and AA	50g	µg/g	Silicon	5000
VHG	OAG-5000-50G	single element RM	for XRF and AA	50g	µg/g	Silver	5000
VHG	ONA-5000-50G	single element RM	for XRF and AA	50g	µg/g	Sodium	5000
VHG	OS-5000-50G	single element RM	for XRF and AA	50g	µg/g	Sulfur	5000
VHG	OSN-5000-50G	single element RM	for XRF and AA	50g	µg/g	Tin	5000
VHG	OTI-5000-50G	single element RM	for XRF and AA	50g	µg/g	Titanium	5000
VHG	OV-5000-50G	single element RM	for XRF and AA	50g	µg/g	Vanadium	5000
VHG	OY-5000-50G	single element RM	for XRF and AA	50g	µg/g	Yttrium	5000
VHG	OZN-5000-50G	single element RM	for XRF and AA	50g	µg/g	Zinc	5000
VHG	OZR-5000-50G	single element RM	for XRF and AA	50g	µg/g	Zirconium	5000

7. Organometallic Single-Element Standards

7.6. Organometallic Single-Element Standards, with Sulfur, 1000 µg/g							
		Application	Remarks	Quantity	Unit	Elements	Conc.
CON	150-100-135	single element RM	for XRF and ICP	50g	µg/g	Aluminum	1000
CON	150-100-515	single element RM	for XRF and ICP	50g	µg/g	Antimony	1000
CON	150-100-565	single element RM	for XRF and ICP	50g	µg/g	Barium	1000
CON	150-100-045	single element RM	for XRF and ICP	50g	µg/g	Beryllium	1000
CON	150-100-835	single element RM	for XRF and ICP	50g	µg/g	Bismuth	1000
CON	150-100-055	single element RM	for XRF and ICP	50g	µg/g	Boron	1000
CON	150-100-485	single element RM	for XRF and ICP	50g	µg/g	Cadmium	1000
CON	150-100-205	single element RM	for XRF and ICP	50g	µg/g	Calcium	1000
CON	150-100-245	single element RM	for XRF and ICP	50g	µg/g	Chromium	1000
CON	150-100-275	single element RM	for XRF and ICP	50g	µg/g	Cobalt	1000
CON	150-100-295	single element RM	for XRF and ICP	50g	µg/g	Copper	1000
CON	150-100-495	single element RM	for XRF and ICP	50g	µg/g	Indium	1000
CON	150-100-265	single element RM	for XRF and ICP	50g	µg/g	Iron	1000
CON	150-100-575	single element RM	for XRF and ICP	50g	µg/g	Lanthanum	1000
CON	150-100-035	single element RM	for XRF and ICP	50g	µg/g	Lithium	1000
CON	150-100-825	single element RM	for XRF and ICP	50g	µg/g	Lead	1000
CON	150-100-125	single element RM	for XRF and ICP	50g	µg/g	Magnesium	1000
CON	150-100-255	single element RM	for XRF and ICP	50g	µg/g	Manganese	1000
CON	150-100-425	single element RM	for XRF and ICP	50g	µg/g	Molybdenum	1000
CON	150-100-285	single element RM	for XRF and ICP	50g	µg/g	Nickel	1000
CON	150-100-155	single element RM	for XRF and ICP	50g	µg/g	Phosphorous	1000
CON	150-100-195	single element RM	for XRF and ICP	50g	µg/g	Potassium	1000
CON	150-100-145	single element RM	for XRF and ICP	50g	µg/g	Silicon	1000
CON	150-100-475	single element RM	for XRF and ICP	50g	µg/g	Silver	1000
CON	150-100-115	single element RM	for XRF and ICP	50g	µg/g	Sodium	1000
CON	150-100-385	single element RM	for XRF and ICP	50g	µg/g	Strontium	1000
CON	150-100-505	single element RM	for XRF and ICP	50g	µg/g	Tin	1000
CON	150-100-225	single element RM	for XRF and ICP	50g	µg/g	Titanium	1000
CON	150-100-745	single element RM	for XRF and ICP	50g	µg/g	Tungsten	1000
CON	150-100-235	single element RM	for XRF and ICP	50g	µg/g	Vanadium	1000
CON	150-100-395	single element RM	for XRF and ICP	50g	µg/g	Yttrium	1000
CON	150-100-305	single element RM	for XRF and ICP	50g	µg/g	Zinc	1000
7.7. Organometallic Single-Element Standards, with Sulfur, 5000 µg/g							
		Application	Remarks	Quantity	Unit	Elements	Conc.
CON	150-500-135	single element RM	for XRF and ICP	50g	µg/g	Aluminum	5000
CON	150-500-515	single element RM	for XRF and ICP	50g	µg/g	Antimony	5000
CON	150-500-565	single element RM	for XRF and ICP	50g	µg/g	Barium	5000
CON	150-500-045	single element RM	for XRF and ICP	50g	µg/g	Beryllium	5000
CON	150-500-835	single element RM	for XRF and ICP	50g	µg/g	Bismuth	5000
CON	150-500-055	single element RM	for XRF and ICP	50g	µg/g	Boron	5000
CON	150-500-485	single element RM	for XRF and ICP	50g	µg/g	Cadmium	5000
CON	150-500-205	single element RM	for XRF and ICP	50g	µg/g	Calcium	5000
CON	150-500-245	single element RM	for XRF and ICP	50g	µg/g	Chromium	5000
CON	150-500-275	single element RM	for XRF and ICP	50g	µg/g	Cobalt	5000
CON	150-500-295	single element RM	for XRF and ICP	50g	µg/g	Copper	5000
CON	150-500-495	single element RM	for XRF and ICP	50g	µg/g	Indium	5000
CON	150-500-265	single element RM	for XRF and ICP	50g	µg/g	Iron	5000
CON	150-500-575	single element RM	for XRF and ICP	50g	µg/g	Lanthanum	5000
CON	150-500-035	single element RM	for XRF and ICP	50g	µg/g	Lithium	5000

7. Organometallic Single-Element Standards

7.7. Organometallic Single-Element Standards, with Sulfur, 5000 µg/g											
		Application	Remarks	Quantity	Unit	Elements	Conc.				
CON	150-500-825	single element RM	for XRF and ICP	50g	µg/g	Lead	5000				
CON	150-500-125	single element RM	for XRF and ICP	50g	µg/g	Magnesium	5000				
CON	150-500-255	single element RM	for XRF and ICP	50g	µg/g	Manganese	5000				
CON	150-500-425	single element RM	for XRF and ICP	50g	µg/g	Molybdenum	5000				
CON	150-500-285	single element RM	for XRF and ICP	50g	µg/g	Nickel	5000				
CON	150-500-155	single element RM	for XRF and ICP	50g	µg/g	Phosphorous	5000				
CON	150-500-195	single element RM	for XRF and ICP	50g	µg/g	Potassium	5000				
CON	150-500-145	single element RM	for XRF and ICP	50g	µg/g	Silicon	5000				
CON	150-500-475	single element RM	for XRF and ICP	50g	µg/g	Silver	5000				
CON	150-500-115	single element RM	for XRF and ICP	50g	µg/g	Sodium	5000				
CON	150-500-385	single element RM	for XRF and ICP	50g	µg/g	Strontium	5000				
CON	150-500-505	single element RM	for XRF and ICP	50g	µg/g	Tin	5000				
CON	150-500-225	single element RM	for XRF and ICP	50g	µg/g	Titanium	5000				
CON	150-500-745	single element RM	for XRF and ICP	50g	µg/g	Tungsten	5000				
CON	150-500-235	single element RM	for XRF and ICP	50g	µg/g	Vanadium	5000				
CON	150-500-395	single element RM	for XRF and ICP	50g	µg/g	Yttrium	5000				
CON	150-500-305	single element RM	for XRF and ICP	50g	µg/g	Zinc	5000				
7.8. Matrix Oil and Stabilizer											
		Application	Remarks	Quantity							
FX	MOSOL-75	single element RM	75 cSt	400g							
FX	MOSOL-20	single element RM	20 cSt	400g							
FX	IS-7281-2OZ	single element RM	Stabilizer	50g							
CON	150-010-001		Stabilizer	50g							
7.9. Metall Additives											
		Application	Remarks	Quantity	µg/g Ba	µg/g Ca	µg/g Mg	µg/g P	µg/g Zn		
FX	MA-900-100G	Hydrocarbon Oil	Also available in 200g	100g	900	900	900	900	900		
FX	MA-1000-100G	Hydrocarbon Oil	Also available in 200g	100g	1000	1000	1000	1000	1000		
FX	MA-3000-100g	Hydrocarbon Oil	Also available in 200g	100g	3000	3000	3000	3000	3000		
FX	MA-5000-100g	Hydrocarbon Oil	Also available in 200g	100g	5000	5000	5000	5000	5000		
7.10. Stabilizer for Sulfur- Free Organometallic Standard Preparation											
		Application	Remarks	Quantity							
VHG	SF-STAB-50	MOSF Stabilizer		100g	Solvent stabilizer can improve stability of mixes or dilutions of VHG's 1000 µg/g and 5000 µg/g metallo-organic standards, as well as multi-element mixes.						
7.11. Blank and Base Oils											
		Application	Remarks	Quantity							
CON	150-020-002	Blank Oils	20cSt	100g	Base Oils are used for blending calibration standards for spectrometric analysis of metals in oil.						
CON	150-020-001	Blank Oils	20cSt	400g							
CON	150-020-005	Blank Oils	20cSt	1 Gal							
CON	150-075-003	Blank Oils	75cSt	100g							
CON	150-075-002	Blank Oils	75cSt	400g							
CON	150-075-006	Blank Oils	75cSt	1Gal							
CON	150-020-004	Baseoil	20cSt	500ml							
CON	150-020-003	Baseoil	20cSt	1Gal							
CON	150-075-005	Baseoil	75cSt	500ml							
CON	150-075-004	Baseoil	75cSt	1Gal							
FX	OC-0000	Baseoil	sulfur, phosphorus free	1000ml							

8. Wear Metals

8.1. V23 Wear Metal Standards, All of the elements included in V21 plus K and Sb		Application	Amount	Unit	Ag	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	
VHG	V23-10-100G	23 wear metals	100g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
VHG	V23-30-100G	23 wear metals	100g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
VHG	V23-50-100G	23 wear metals	100g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
VHG	V23-100-100G	23 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100	continued
VHG	V23-300-100G	23 wear metals	100g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
VHG	V23-500-100G	23 wear metals	100g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
VHG	V23-900-100G	23 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900	900	900	
		Continuation from above	Amount	Unit	Ni	P	Pb	Sb	Si	Sn	Ti	V	Zn						
VHG	V23-10-100G	23 wear metals	100g	µg/g	10	10	10	10	10	10	10	10	10						
VHG	V23-30-100G	23 wear metals	100g	µg/g	30	30	30	30	30	30	30	30	30						
VHG	V23-50-100G	23 wear metals	100g	µg/g	50	50	50	50	50	50	50	50	50						
VHG	V23-100-100G	23 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100						
VHG	V23-300-100G	23 wear metals	100g	µg/g	300	300	300	300	300	300	300	300	300						
VHG	V23-500-100G	23 wear metals	100g	µg/g	500	500	500	500	500	500	500	500	500						
VHG	V23-900-100G	23 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900						
V23 Wear Metal Standards, All of the elements included in V21 plus K and Sb		Application	Amount	Unit	Ag	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	
VHG	V23-10-200G	23 wear metals	200g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
VHG	V23-30-200G	23 wear metals	200g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
VHG	V23-50-200G	23 wear metals	200g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
VHG	V23-100-200G	23 wear metals	200g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100	continued
VHG	V23-300-200G	23 wear metals	200g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
VHG	V23-500-200G	23 wear metals	200g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
VHG	V23-900-200G	23 wear metals	200g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900	900	900	
		Continuation from above	Amount	Unit	Ni	P	Pb	Sb	Si	Sn	Ti	V	Zn						
VHG	V23-10-200G	23 wear metals	200g	µg/g	10	10	10	10	10	10	10	10	10						
VHG	V23-30-200G	23 wear metals	200g	µg/g	30	30	30	30	30	30	30	30	30						
VHG	V23-50-200G	23 wear metals	200g	µg/g	50	50	50	50	50	50	50	50	50						
VHG	V23-100-200G	23 wear metals	200g	µg/g	100	100	100	100	100	100	100	100	100						
VHG	V23-300-200G	23 wear metals	200g	µg/g	300	300	300	300	300	300	300	300	300						
VHG	V23-500-200G	23 wear metals	200g	µg/g	500	500	500	500	500	500	500	500	500						
VHG	V23-900-200G	23 wear metals	200g	µg/g	900	900	900	900	900	900	900	900	900						

8. Wear Metals

8.2. V21+K Wear Metal Standards, All of the elements included in V21 plus K		Application	Amount	Unit	Ag	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	K	Mg	Mn	Mo	Na
VHG	V21+K-10-100G	21 wear metals	100g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	10
VHG	V21+K-30-100G	21 wear metals	100g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	30
VHG	V21+K-50-100G	21 wear metals	100g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50	50	50
VHG	V21+K-100-100G	21 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100
VHG	V21+K-300-100G	21 wear metals	100g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300	300	300
VHG	V21+K-500-100G	21 wear metals	100g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500	500	500
VHG	V21+K-900-100G	21 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900	900	900
		Continuation from above	Amount	Unit	Ni	P	Pb	Si	Sn	Ti	V	Zn						
VHG	V21+K-10-100G	21 wear metals	100g	µg/g	10	10	10	10	10	10	10	10						
VHG	V21+K-30-100G	21 wear metals	100g	µg/g	30	30	30	30	30	30	30	30						
VHG	V21+K-50-100G	21 wear metals	100g	µg/g	50	50	50	50	50	50	50	50						
VHG	V21+K-100-100G	21 wear metals	100g	µg/g	100	100	100	100	100	100	100	100						
VHG	V21+K-300-100G	21 wear metals	100g	µg/g	300	300	300	300	300	300	300	300						
VHG	V21+K-500-100G	21 wear metals	100g	µg/g	500	500	500	500	500	500	500	500						
VHG	V21+K-900-100G	21 wear metals	100g	µg/g	900	900	900	900	900	900	900	900						
		Continuation from above	Amount	Unit	Ni	P	Pb	Si	Sn	Ti	V	Zn						
VHG	V21+K-10-200G	21 wear metals	200g	µg/g	10	10	10	10	10	10	10	10						
VHG	V21+K-30-200G	21 wear metals	200g	µg/g	30	30	30	30	30	30	30	30						
VHG	V21+K-50-200G	21 wear metals	200g	µg/g	50	50	50	50	50	50	50	50						
VHG	V21+K-100-200G	21 wear metals	200g	µg/g	100	100	100	100	100	100	100	100						
VHG	V21+K-300-200G	21 wear metals	200g	µg/g	300	300	300	300	300	300	300	300						
VHG	V21+K-500-200G	21 wear metals	200g	µg/g	500	500	500	500	500	500	500	500						
VHG	V21+K-900-200G	21 wear metals	200g	µg/g	900	900	900	900	900	900	900	900						
		Continuation from above	Amount	Unit	Ni	P	Pb	Si	Sn	Ti	V	Zn						
VHG	V21+K-10-200G	21 wear metals	200g	µg/g	10	10	10	10	10	10	10	10						
VHG	V21+K-30-200G	21 wear metals	200g	µg/g	30	30	30	30	30	30	30	30						
VHG	V21+K-50-200G	21 wear metals	200g	µg/g	50	50	50	50	50	50	50	50						
VHG	V21+K-100-200G	21 wear metals	200g	µg/g	100	100	100	100	100	100	100	100						
VHG	V21+K-300-200G	21 wear metals	200g	µg/g	300	300	300	300	300	300	300	300						
VHG	V21+K-500-200G	21 wear metals	200g	µg/g	500	500	500	500	500	500	500	500						
VHG	V21+K-900-200G	21 wear metals	200g	µg/g	900	900	900	900	900	900	900	900						

8. Wear Metals

8.3.	21 Wear Metal Standards, All of the elements combined on hydrocarbon oil																		
		Application	Amount	Unit	Ag	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	
	VHG	V21-10-100G	21 wear metals	100g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	continued
	VHG	V21-30-100G	21 wear metals	100g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	
	VHG	V21-50-100G	21 wear metals	100g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50		
	VHG	V21-100-100G	21 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100		
	VHG	V21-300-100G	21 wear metals	100g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300		
	VHG	V21-500-100G	21 wear metals	100g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500		
	VHG	V21-900-100G	21 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900		
		Continuation from above	Amount	Unit	P	Pb	Si	Sn	Ti	V	Zn								
	VHG	V21-10-100G	21 wear metals	100g	µg/g	10	10	10	10	10	10								
	VHG	V21-30-100G	21 wear metals	100g	µg/g	30	30	30	30	30	30								
	VHG	V21-50-100G	21 wear metals	100g	µg/g	50	50	50	50	50	50								
	VHG	V21-100-100G	21 wear metals	100g	µg/g	100	100	100	100	100	100								
	VHG	V21-300-100G	21 wear metals	100g	µg/g	300	300	300	300	300	300								
	VHG	V21-500-100G	21 wear metals	100g	µg/g	500	500	500	500	500	500								
	VHG	V21-900-100G	21 wear metals	100g	µg/g	900	900	900	900	900	900								
21 Wear Metal Standards, All of the elements combined on hydrocarbon oil																			
		Application	Amount	Unit	Ag	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	
	CON	150-021-002	21 wear metals	100g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	continued
	CON	150-021-008	21 wear metals	100g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	
	CON	150-021-010	21 wear metals	100g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50		
	CON	150-021-003	21 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100		
	CON	150-021-009	21 wear metals	100g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300		
	CON	150-021-011	21 wear metals	100g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500		
	CON	150-021-015	21 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900		
		Continuation from above	Amount	Unit	P	Pb	Si	Sn	Ti	V	Zn								
	CON	150-021-002	21 wear metals	100g	µg/g	10	10	10	10	10	10								
	CON	150-021-008	21 wear metals	100g	µg/g	30	30	30	30	30	30								
	CON	150-021-010	21 wear metals	100g	µg/g	50	50	50	50	50	50								
	CON	150-021-003	21 wear metals	100g	µg/g	100	100	100	100	100	100								
	CON	150-021-009	21 wear metals	100g	µg/g	300	300	300	300	300	300								
	CON	150-021-011	21 wear metals	100g	µg/g	500	500	500	500	500	500								
	CON	150-021-015	21 wear metals	100g	µg/g	900	900	900	900	900	900								

8. Wear Metals

8.3. 21 Wear Metal Standards, All of the elements combined on hydrocarbon oil		Application	Amount	Unit	Ag	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	
VHG	V21-10-200G	21 wear metals	200g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
VHG	V21-30-200G	21 wear metals	200g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
VHG	V21-50-200G	21 wear metals	200g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
VHG	V21-100-200G	21 wear metals	200g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100	continued
VHG	V21-300-200G	21 wear metals	200g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
VHG	V21-500-200G	21 wear metals	200g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
VHG	V21-900-200G	21 wear metals	200g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900	900	900	
		Continuation from above	Amount	Unit	Ni	P	Pb	Si	Sn	Ti	V	Zn							
VHG	V21-10-200G	21 wear metals	200g	µg/g	10	10	10	10	10	10	10	10							
VHG	V21-30-200G	21 wear metals	200g	µg/g	30	30	30	30	30	30	30	30							
VHG	V21-50-200G	21 wear metals	200g	µg/g	50	50	50	50	50	50	50	50							
VHG	V21-100-200G	21 wear metals	200g	µg/g	100	100	100	100	100	100	100	100							
VHG	V21-300-200G	21 wear metals	200g	µg/g	300	300	300	300	300	300	300	300							
VHG	V21-500-200G	21 wear metals	200g	µg/g	500	500	500	500	500	500	500	500							
VHG	V21-900-200G	21 wear metals	200g	µg/g	900	900	900	900	900	900	900	900							
21 Wear Metal Standards, All of the elements combined on hydrocarbon oil		Application	Amount	Unit	Ag	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	
CON	150-021-018	21 wear metals	200g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
CON	150-021-027	21 wear metals	200g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
CON	150-021-030	21 wear metals	200g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
CON	150-021-019	21 wear metals	200g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100	continued
CON	150-021-028	21 wear metals	200g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
CON	150-021-031	21 wear metals	200g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
CON	150-021-035	21 wear metals	200g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900	900	900	
		Continuation from above	Amount	Unit	Ni	P	Pb	Si	Sn	Ti	V	Zn							
CON	150-021-018	21 wear metals	200g	µg/g	10	10	10	10	10	10	10	10							
CON	150-021-027	21 wear metals	200g	µg/g	30	30	30	30	30	30	30	30							
CON	150-021-030	21 wear metals	200g	µg/g	50	50	50	50	50	50	50	50							
CON	150-021-019	21 wear metals	200g	µg/g	100	100	100	100	100	100	100	100							
CON	150-021-028	21 wear metals	200g	µg/g	300	300	300	300	300	300	300	300							
CON	150-021-031	21 wear metals	200g	µg/g	500	500	500	500	500	500	500	500							
CON	150-021-035	21 wear metals	200g	µg/g	900	900	900	900	900	900	900	900							

8. Wear Metals

8.4. 12 Wear Metal Multi-Element Standard, elements in hydrocarbon oil at the stated concentration																
		Application	Amount	Unit	Ag	Al	Cr	Cu	Fe	Mg	Na	Ni	Pb	Si	Sn	Ti
FX	WM-12-1X-4	12 wear metals	100g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10
FX	WM-12-3X-4	12 wear metals	100g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30
FX	WM-12-5X-4	12 wear metals	100g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50
FX	WM-12-10X-4	12 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100
FX	WM-12-30X-4	12 wear metals	100g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300
FX	WM-12-50X-4	12 wear metals	100g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500
FX	WM-12-90X-4	12 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900
FX	WM-12-SET-4	12 wear metals	Set	...	...	...	...	...	...	...	...	...	...	...	...	...
12 Wear Metal Multi-Element Standard, elements in hydrocarbon oil at the stated concentration																
		Application	Amount	Unit	Ag	Al	Cr	Cu	Fe	Mg	Na	Ni	Pb	Si	Sn	Ti
CON	150-012-001	12 wear metals	100g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10
CON	150-012-004	12 wear metals	100g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30
CON	150-012-006	12 wear metals	100g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50
CON	150-012-002	12 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100
CON	150-012-005	12 wear metals	100g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300
CON	150-012-007	12 wear metals	100g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500
CON	150-012-008	12 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900
12 Wear Metal Multi-Element Standard, elements in hydrocarbon oil at the stated concentration																
		Application	Amount	Unit	Ag	Al	Cr	Cu	Fe	Mg	Na	Ni	Pb	Si	Sn	Ti
FX	WM-12-1X-8	12 wear metals	200g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10
FX	WM-12-3X-8	12 wear metals	200g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30
FX	WM-12-5X-8	12 wear metals	200g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50
FX	WM-12-10X-8	12 wear metals	200g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100
FX	WM-12-30X-8	12 wear metals	200g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300
FX	WM-12-50X-8	12 wear metals	200g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500
FX	WM-12-90X-8	12 wear metals	200g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900
FX	WM-12-SET-8	12 wear metals	Set	...	...	...	...	...	...	...	...	...	...	...	...	...
12 Wear Metal Multi-Element Standard, elements in hydrocarbon oil at the stated concentration																
		Application	Amount	Unit	Ag	Al	Cr	Cu	Fe	Mg	Na	Ni	Pb	Si	Sn	Ti
CON	150-012-009	12 wear metals	200g	µg/g	10	10	10	10	10	10	10	10	10	10	10	10
CON	150-012-012	12 wear metals	200g	µg/g	30	30	30	30	30	30	30	30	30	30	30	30
CON	150-012-014	12 wear metals	200g	µg/g	50	50	50	50	50	50	50	50	50	50	50	50
CON	150-012-010	12 wear metals	200g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100
CON	150-012-013	12 wear metals	200g	µg/g	300	300	300	300	300	300	300	300	300	300	300	300
CON	150-012-015	12 wear metals	200g	µg/g	500	500	500	500	500	500	500	500	500	500	500	500
CON	150-012-016	12 wear metals	200g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900
8.5. Internal Standards, For Wear Metal Analysis by ICP																
		Application	Amount	Element	µg/g	%										
VHG	OY-5000-400G	Hydrocarbon Oil	400g	Y	5000	0,5000	The use on an internal standard, such as Co or Y, can significantly improve the accuracy of your results by correcting for wide variations in the viscosity or oil composition of your samples. Internal standards are easy to use when added to the diluent prior to sample preparation.									
VHG	OCO-6%IS-100G	Mineral Spirits	100g	Co	60000	6,0000										
VHG	OCO-6%IS-200G	Mineral Spirits	200g	Co	60000	6,0000										
VHG	OCO-6%IS-400G	Mineral Spirits	400g	Co	60000	6,0000										

8. Wear Metals

8.6.	21 Wear Metal Multi-Element Standard containing no sulfur, in hydrocarbon oil at the stated concentration																		
			Application	Amount	Unit	Ag	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni
	FX	WM-21-NMS-1X-1	21 wear metals	100ml	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	FX	WM-21-NMS-3X-1	21 wear metals	100ml	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	FX	WM-21-NMS-5X-1	21 wear metals	100ml	µg/g	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	FX	WM-21-NMS-10X-1	21 wear metals	100ml	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	FX	WM-21-NMS-30X-1	21 wear metals	100ml	µg/g	300	300	300	300	300	300	300	300	300	300	300	300	300	300
	FX	WM-21-NMS-50X-1	21 wear metals	100ml	µg/g	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	FX	WM-21-NMS-SET-1	21 wear metals	Set	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Continuation from above	Amount	Unit	P	Pb	Si	Sn	Ti	V	Zn							
	FX	WM-21-NMS-1X-1	21 wear metals	100ml	µg/g	10	10	10	10	10	10	10							
	FX	WM-21-NMS-3X-1	21 wear metals	100ml	µg/g	30	30	30	30	30	30	30							
	FX	WM-21-NMS-5X-1	21 wear metals	100ml	µg/g	50	50	50	50	50	50	50							
	FX	WM-21-NMS-10X-1	21 wear metals	100ml	µg/g	100	100	100	100	100	100	100							
	FX	WM-21-NMS-30X-1	21 wear metals	100ml	µg/g	300	300	300	300	300	300	300							
	FX	WM-21-NMS-50X-1	21 wear metals	100ml	µg/g	500	500	500	500	500	500	500							
	FX	WM-21-NMS-SET-1	21 wear metals	Set	...	...	...	...	...	...	...	...							
8.7.	20 Wear Metal Multi-Element Standard containing no sulfur, in hydrocarbon oil at the stated concentration, ASTM D-4951-96																		
			Application	Amount	Unit	Al	B	Ba	Ca	Cd	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P
	FX	WM-20-NMS-1X-1	20 wear metals	100ml	µg/g	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	FX	WM-20-NMS-3X-1	20 wear metals	100ml	µg/g	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	FX	WM-20-NMS-5X-1	20 wear metals	100ml	µg/g	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	FX	WM-20-NMS-10X-1	20 wear metals	100ml	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	FX	WM-20-NMS-30X-1	20 wear metals	100ml	µg/g	300	300	300	300	300	300	300	300	300	300	300	300	300	300
	FX	WM-20-NMS-50X-1	20 wear metals	100ml	µg/g	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	FX	WM-20-NMS-90X-1	20 wear metals	100ml	µg/g	900	900	900	900	900	900	900	900	900	900	900	900	900	900
	FX	WM-20-NMS-SET-1	20 wear metals	Set	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Continuation from above	Amount	Unit	Pb	Si	Sn	Ti	V	Zn								
	FX	WM-20-NMS-1X-1	20 wear metals	100ml	µg/g	10	10	10	10	10	10								
	FX	WM-20-NMS-3X-1	20 wear metals	100ml	µg/g	30	30	30	30	30	30								
	FX	WM-20-NMS-5X-1	20 wear metals	100ml	µg/g	50	50	50	50	50	50								
	FX	WM-20-NMS-10X-1	20 wear metals	100ml	µg/g	100	100	100	100	100	100								
	FX	WM-20-NMS-30X-1	20 wear metals	100ml	µg/g	300	300	300	300	300	300								
	FX	WM-20-NMS-50X-1	20 wear metals	100ml	µg/g	500	500	500	500	500	500								
	FX	WM-20-NMS-90X-1	20 wear metals	100ml	µg/g	900	900	900	900	900	900								
	FX	WM-20-NMS-SET-1	20 wear metals	Set	...	...	...	...	...	...	...								

8. Wear Metals

8.8. 12 Wear Metal Multi-Element Standard containing no sulfur, in hydrocarbon oil at the stated concentration

		Application	Amount	Unit	Ag	Al	Cr	Cu	Fe	Mg	Na	Ni	Pb	Si	Sn	Ti
FX	WM-12-NMS-1X-1	12 wear metals	100ml	µg/g	10	10	10	10	10	10	10	10	10	10	10	10
FX	WM-12-NMS-3X-1	12 wear metals	100ml	µg/g	30	30	30	30	30	30	30	30	30	30	30	30
FX	WM-12-NMS-5X-1	12 wear metals	100ml	µg/g	50	50	50	50	50	50	50	50	50	50	50	50
FX	WM-12-NMS-10X-1	12 wear metals	100ml	µg/g	100	100	100	100	100	100	100	100	100	100	100	100
FX	WM-12-NMS-30X-1	12 wear metals	100ml	µg/g	300	300	300	300	300	300	300	300	300	300	300	300
FX	WM-12-NMS-50X-1	12 wear metals	100ml	µg/g	500	500	500	500	500	500	500	500	500	500	500	500
FX	WM-12-NMS-SET-1	12 wear metals	Set	...	...	...	...	...	...	...	...	...	...	...	...	...

8.9. 11 Wear Metal Multi-Element Standard containing no sulfur, in hydrocarbon oil at the stated concentration

		Application	Amount	Unit	Al	Cr	Cu	Fe	Mg	Na	Ni	Pb	Si	Sn	Ti
FX	WM-11-NMS-1X-1	11 wear metals	100ml	µg/g	10	10	10	10	10	10	10	10	10	10	10
FX	WM-11-NMS-3X-1	11 wear metals	100ml	µg/g	30	30	30	30	30	30	30	30	30	30	30
FX	WM-11-NMS-5X-1	11 wear metals	100ml	µg/g	50	50	50	50	50	50	50	50	50	50	50
FX	WM-11-NMS-10X-1	11 wear metals	100ml	µg/g	100	100	100	100	100	100	100	100	100	100	100
FX	WM-11-NMS-30X-1	11 wear metals	100ml	µg/g	300	300	300	300	300	300	300	300	300	300	300
FX	WM-11-NMS-50X-1	11 wear metals	100ml	µg/g	500	500	500	500	500	500	500	500	500	500	500
FX	WM-11-NMS-90X-1	11 wear metals	100ml	µg/g	900	900	900	900	900	900	900	900	900	900	900
FX	WM-11-NMS-SET-1	11 wear metals	Set	...	...	...	...	...	...	...	...	...	...	...	...

8.10. Wear Metal for XRF

		Application	Amount	Unit	Ag	Al	Ba	Ca	Cd	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Si	Sn	Ti	V	Zn
VHG	WRMTL1	Wear Metal for XRF	50g	µg/g	...	...	...	5000	...	...	300	20	...	50	...	...	40	10	...	200	100	400	50	500	30	500
VHG	WRMTL2	Wear Metal for XRF	50g	µg/g	...	300	...	500	30	500	...	...	...	10	...	...	100	40	1000	10	...	50	20	400	...	700
VHG	WRMTL3	Wear Metal for XRF	50g	µg/g	...	...	300	3000	...	...	40	500	...	...	10	...	...	100	...	20	400	300	30	200	50	10
VHG	WRMTL4	Wear Metal for XRF	50g	µg/g	...	500	30	50	...	...	...	400	50	500	50	30	...	20	700	40	200	...	300	...	100	100
VHG	WRMTL5	Wear Metal for XRF	50g	µg/g	10	100	500	...	200	...	20	...	...	30	...	...	...	300	10	30	50	500	...	40	...	300
VHG	WRMTL6	Wear Metal for XRF	50g	µg/g	20	10	1500	1000	...	50	...	200	40	...	300	50	30	500	100	...	...	100	400	...	...	1250
VHG	WRMTL7	Wear Metal for XRF	50g	µg/g	200	...	1000	10	50	300	10	...	30	1250	100	...	400	...	1500	500	...	...	...	20	40	50
VHG	WRMTL8	Wear Metal for XRF	50g	µg/g	300	20	50	100	100	400	400	30	10	2000	500	40	...	...	...	50	40	20	...	...	200	...
VHG	WRMTL9	Wear Metal for XRF	50g	µg/g	50	...	1250	2000	300	20	...	100	...	1500	400	10	200	...	50	300	30	40	...	...	500	...
VHG	WRMTL10	Wear Metal for XRF	50g	µg/g	100	50	...	700	20	200	500	...	300	100	...	400	...	30	2000	...	10	...	10	50	...	...
VHG	WRMTL11	Wear Metal for XRF	50g	µg/g	30	...	2000	30	10	100	...	300	500	...	40	200	...	...	300	...	20	...	100	10	...	1000
VHG	WRMTL12	Wear Metal for XRF	50g	µg/g	40	200	10	300	40	...	...	...	200	700	20	500	10	400	1250	100	300	...	200	30	400	2000
VHG	WRMTL13	Wear Metal for XRF	50g	µg/g	400	30	700	...	400	40	200	10	100	3000	30	300	500	50	...	...	...	...	...	...	20	1500
VHG	WRMTL14	Wear Metal for XRF	50g	µg/g	500	...	...	1500	...	30	50	40	...	300	...	100	20	...	...	400	500	200	...	300	10	30
VHG	WRMTL15	Wear Metal for XRF	50g	µg/g	...	400	100	4000	500	10	100	50	20	...	...	...	300	200	500	...	...	30	40	...	...	...
VHG	WRMTL16	Wear Metal for XRF	50g	µg/g	...	40	...	...	...	...	30	...	400	1000	200	20	50	...	30	...	...	10	500	100	300	...
VHG	WRMTL17	Wear Metal for XRF	50g	µg/g	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VHG	WRMTL-SET-1	Wear Metal for XRF	Set	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

9. Metal Additive Standards

9.1. Metal Additive Standard MA3

		Application	Amount	Unit	Ca	P	Zn
VHG	MA3-100G	in hydrocarbon oil	100g	µg/g	5000	1600	1600
VHG	MA3-200G	in hydrocarbon oil	200g	µg/g	5000	1600	1600

Metal Additive Standard MA4

		Application	Amount	Unit	Ca	Mg	P	Zn
VHG	MA4-100G	in hydrocarbon oil	100g	µg/g	5000	1600	1600	1600
VHG	MA4-200G	in hydrocarbon oil	200g	µg/g	5000	1600	1600	1600

Metal Additive Standard MA5

		Application	Amount	Unit	Ba	Ca	Mg	P	Zn
VHG	MA5-900-100G	in hydrocarbon oil	100g	µg/g	900	900	900	900	900
VHG	MA5-1000-100G	in hydrocarbon oil	100g	µg/g	1000	1000	1000	1000	1000
VHG	MA5-3000-100G	in hydrocarbon oil	100g	µg/g	3000	3000	3000	3000	3000
VHG	MA5-5000-100G	in hydrocarbon oil	100g	µg/g	5000	5000	5000	5000	5000
VHG	MA5-900-200G	in hydrocarbon oil	200g	µg/g	900	900	900	900	900
VHG	MA5-1000-200G	in hydrocarbon oil	200g	µg/g	1000	1000	1000	1000	1000
VHG	MA5-3000-200G	in hydrocarbon oil	200g	µg/g	3000	3000	3000	3000	3000
VHG	MA5-5000-200G	in hydrocarbon oil	200g	µg/g	5000	5000	5000	5000	5000

9. Metal Additive Standards/ 10. Lubricating Oils

9.2. Matrix Oil and Solvents		Application	Amount	
VHG	OIL-75-500	75 cSt Hydrocarbon oil	500ml	Solvents for the Preparation of Working Standards for Hydrocarbon/Petrochemical Analysis
VHG	OIL-75-1GAL	75 cSt Hydrocarbon oil	1Gal	
VHG	OIL-20-500	20 cSt Hydrocarbon Oil	500ml	
VHG	OIL-20-1GAL	20 cSt Hydrocarbon Oil	1Gal	
VHG	KERO-500	Kerosene	500ml	
VHG	KERO-1GAL	Kerosene	1Gal	
9.3. Stabilizer for Wear Metals		Application	Remarks	Amount
VHG	STAB-50	MO Stabilizer	Add to solutions at 0,6wt%	50g

10. Lubricating Oils

10.1. Set Cl, P, S										
		Application	Remarks	Amount	Unit	Cl	P	S		
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	0,750	0,025	0,500	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	0,050	0,100	3,000	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	1,000	0,500	2,500	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	0,100	0,005	2,000	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	1,500	0,200	1,000	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	2,000	0,005	3,000	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	1,000	0,050	0,100	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	0,500	0,400	0,000	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	2,000	0,200	1,500	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	0,000	0,500	1,500	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	1,250	0,010	0,050	
	FX	ASTM-P-0121-SET	lubricating oil	only as set	100ml	%	0,050	0,300	0,050	
10.2. Set Ca, P, S, Zn										
		Application	Remarks	Amount	Unit	Ca	P	S	Zn	
	FX	ASTM-P-0090-01	lubricating oil	xrf	100g	%	0,000	0,000	0,000	0,000
	FX	ASTM-P-0090-02	lubricating oil	xrf	100g	%	0,000	0,020	0,300	0,175
	FX	ASTM-P-0090-03	lubricating oil	xrf	100g	%	0,005	0,000	0,550	0,140
	FX	ASTM-P-0090-04	lubricating oil	xrf	100g	%	0,025	0,175	0,350	0,100
	FX	ASTM-P-0090-05	lubricating oil	xrf	100g	%	0,050	0,150	0,200	0,200
	FX	ASTM-P-0090-06	lubricating oil	xrf	100g	%	0,075	0,225	0,500	0,150
	FX	ASTM-P-0090-07	lubricating oil	xrf	100g	%	0,100	0,010	0,450	0,250
	FX	ASTM-P-0090-08	lubricating oil	xrf	100g	%	0,100	0,125	0,600	0,060
	FX	ASTM-P-0090-09	lubricating oil	xrf	100g	%	0,150	0,100	0,250	0,089
	FX	ASTM-P-0090-10	lubricating oil	xrf	100g	%	0,200	0,008	0,075	0,120
	FX	ASTM-P-0090-11	lubricating oil	xrf	100g	%	0,250	0,050	0,125	0,000
	FX	ASTM-P-0090-12	lubricating oil	xrf	100g	%	0,300	0,060	0,100	0,130
	FX	ASTM-P-0090-13	lubricating oil	xrf	100g	%	0,350	0,004	0,400	0,110
	FX	ASTM-P-0090-14	lubricating oil	xrf	100g	%	0,400	0,200	0,175	0,050
	FX	ASTM-P-0090-15	lubricating oil	xrf	100g	%	0,500	0,030	0,150	0,070
	FX	ASTM-P-0090-16	lubricating oil	xrf	100g	%	0,600	0,005	0,050	0,080
	FX	ASTM-P-0090-SET	lubricating oil	Set 16x	...	...	...	...	...	

10. Lubricating Oils

10.2. Set Ca, P, S, Zn (Suitable for ASTM D4927, D6481, D6443)									
		Application	Remarks	Amount	Unit	Ca	P	S	Zn
VHG	LOIL1-100	lubricating oil	Available individually	100ml	%	0,000	0,000	0,000	0,000
VHG	LOIL2-100	lubricating oil	Available individually	100ml	%	0,600	0,005	0,050	0,080
VHG	LOIL3-100	lubricating oil	Available individually	100ml	%	0,000	0,020	0,300	0,175
VHG	LOIL4-100	lubricating oil	Available individually	100ml	%	0,500	0,030	0,150	0,070
VHG	LOIL5-100	lubricating oil	Available individually	100ml	%	0,300	0,060	0,100	0,130
VHG	LOIL6-100	lubricating oil	Available individually	100ml	%	0,400	0,200	0,175	0,050
VHG	LOIL7-100	lubricating oil	Available individually	100ml	%	0,200	0,080	0,075	0,120
VHG	LOIL8-100	lubricating oil	Available individually	100ml	%	0,250	0,050	0,125	0,000
VHG	LOIL9-100	lubricating oil	Available individually	100ml	%	0,350	0,040	0,400	0,110
VHG	LOIL10-100	lubricating oil	Available individually	100ml	%	0,075	0,225	0,500	0,150
VHG	LOIL11-100	lubricating oil	Available individually	100ml	%	0,050	0,150	0,200	0,200
VHG	LOIL12-100	lubricating oil	Available individually	100ml	%	0,005	0,000	0,550	0,140
VHG	LOIL13-100	lubricating oil	Available individually	100ml	%	0,100	0,010	0,450	0,025
VHG	LOIL14-100	lubricating oil	Available individually	100ml	%	0,010	0,125	0,600	0,060
VHG	LOIL15-100	lubricating oil	Available individually	100ml	%	0,150	0,100	0,250	0,090
VHG	LOIL16-100	lubricating oil	Available individually	100ml	%	0,025	0,175	0,350	0,100
VHG	LOILSET-16x100	lubricating oil	Set	16x100ml	...	...	...	...	...
Set Ca, P, S, Zn (ASTM D-6481-99)									
		Application	Remarks	Amount	Unit	Ca	P	S	Zn
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,600	0,005	0,175	0,060
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,500	0,200	0,050	0,080
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,400	0,150	0,300	0,180
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,260	0,250	0,150	0,120
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,005	0,005	0,450	0,070
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,400	0,025	0,350	0,100
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,300	0,060	0,250	0,120
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,200	0,100	0,450	0,100
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,060	0,080	0,300	0,130
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,060	0,050	0,200	0,050
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,050	0,120	0,100	0,075
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,025	0,150	0,200	0,130
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,005	0,200	0,400	0,150
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,170	0,250	0,550	0,110
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,100	0,100	0,200	0,200
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,010	0,010	0,600	0,250
FX	ASTM-P-0108-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000
Set Ca, P, S, Zn									
		Application	Remarks	Amount	Unit	Ca	P	S	Zn
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	0,500	1,000	0,500	0,500
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	3,000	1,000	3,000	0,200
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	2,000	1,250	1,000	1,500
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	5,000	1,500	0,500	1,200
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	4,000	0,500	1,500	0,750
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	2,500	0,750	4,000	1,000
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	4,000	0,500	2,000	1,250
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	0,500	2,000	5,000	1,000
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	1,000	0,750	2,000	1,500
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	2,500	1,200	3,000	0,500
FX	ASTM-P-0116-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000

10. Lubricating Oils

10.2. Set Ca, P, S, Zn (ASTM D-6481-99, EDXRF)										
		Application	Remarks	Amount	Unit	Ca	P	S	Zn	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,005	0,005	0,050	0,050	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,600	0,000	0,000	0,000	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,000	0,300	0,000	0,000	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	1,000	0,000	1,000	0,000	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,300	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,005	0,250	0,800	0,300	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,500	0,150	0,500	0,150	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,010	0,200	0,100	0,250	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,050	0,010	0,400	0,075	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,100	0,150	0,200	0,200	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,200	0,200	0,800	0,100	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,400	0,005	0,800	0,300	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,600	0,100	0,500	0,050	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,800	0,010	0,050	0,100	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	1,000	0,300	1,000	0,150	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,400	0,050	0,600	0,250	
FX	ASTM-P-0114-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	
10.3. Set Ca, Cl, P, S, Zn										
		Application	Remarks	Amount	Unit	Ca	Cl	P	S	Zn
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,600	0,100	0,005	0,175	0,060
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,500	0,000	0,200	0,050	0,080
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,400	0,010	0,150	0,300	0,180
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,260	0,500	0,250	0,150	0,120
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,005	1,000	0,005	0,450	0,070
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,400	0,400	0,025	0,350	0,100
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,300	0,100	0,060	0,250	0,120
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,200	0,010	0,100	0,450	0,100
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,060	0,050	0,080	0,300	0,130
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,060	0,200	0,050	0,200	0,050
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,050	0,500	0,120	0,100	0,075
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,025	0,800	0,150	0,200	0,130
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,005	1,000	0,200	0,400	0,150
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,170	0,600	0,250	0,550	0,110
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,100	0,200	0,100	0,200	0,200
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,010	0,400	0,010	0,600	0,250
FX	ASTM-P-0109-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000

10. Lubricating Oils

10.3. Set Ca, Cl, P, S, Zn (D-4927-96)											
		Application	Remarks	Amount	Unit	Ba	Ca	P	S	Zn	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,100	0,600	0,005	0,175	0,060	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,175	0,500	0,200	0,050	0,080	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,000	0,400	0,150	0,300	0,180	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,025	0,260	0,250	0,150	0,120	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,150	0,005	0,005	0,450	0,070	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,000	0,400	0,025	0,350	0,100	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,200	0,300	0,060	0,250	0,120	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,000	0,200	0,100	0,450	0,100	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,100	0,060	0,080	0,300	0,130	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,050	0,060	0,050	0,200	0,050	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,075	0,050	0,120	0,100	0,075	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,010	0,025	0,150	0,200	0,130	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,005	0,005	0,200	0,400	0,150	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,000	0,170	0,250	0,550	0,110	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,000	0,100	0,100	0,200	0,200	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,005	0,010	0,010	0,600	0,250	
FX	ASTM-P-0110-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000	
10.4. Set Ca, Mg, P, S, Zn											
		Application	Remarks	Amount	Unit	Ca	Mg	P	S	Zn	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,600	0,100	0,005	0,175	0,060	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,500	0,150	0,200	0,050	0,080	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,400	0,350	0,150	0,300	0,180	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,260	0,225	0,250	0,150	0,120	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,005	0,450	0,005	0,450	0,070	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,400	0,500	0,025	0,350	0,100	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,300	0,325	0,060	0,250	0,120	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,200	0,250	0,100	0,450	0,100	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,060	0,100	0,080	0,300	0,130	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,060	0,400	0,050	0,200	0,050	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,050	0,300	0,120	0,100	0,075	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,025	0,200	0,150	0,200	0,130	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,005	0,375	0,200	0,400	0,150	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,170	0,175	0,250	0,550	0,110	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,100	0,425	0,100	0,200	0,200	
FX	ASTM-P-0112-SET	lubricating oil	only as set	100ml	%	0,010	0,275	0,010	0,600	0,250	

10. Lubricating Oils

10.4. Set Ca, Mg, P, S, Zn (ASTM D-6481-99)											
		Application	Remarks	Amount	Unit	Ca	Mg	P	S	Zn	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,005	0,100	0,005	0,050	0,005	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,600	0,150	0,000	0,000	0,000	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,000	0,350	0,300	0,000	0,000	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	1,000	0,225	0,000	1,000	0,000	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,000	0,045	0,000	0,000	0,300	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,005	0,500	0,250	0,800	0,300	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,500	0,325	0,150	0,500	0,150	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,010	0,250	0,200	0,100	0,250	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,050	0,050	0,010	0,400	0,075	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,100	0,400	0,150	0,200	0,200	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,200	0,300	0,200	0,800	0,100	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,400	0,200	0,005	0,800	0,300	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,600	0,375	0,100	0,500	0,050	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,800	0,175	0,010	0,050	0,100	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	1,000	0,425	0,300	1,000	0,015	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,400	0,275	0,050	0,600	0,250	
FX	ASTM-P-0115-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000	
10.5. Set Ba, Ca, Cl, P, S, Zn (ASTM D-4927-96)											
		Application	Remarks	Amount	Unit	Ba	Ca	Cl	P	S	Zn
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,100	0,600	0,100	0,005	0,175	0,060
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,175	0,500	0,000	0,200	0,050	0,080
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,000	0,400	0,010	0,150	0,300	0,180
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,025	0,260	0,500	0,250	0,150	0,120
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,150	0,005	1,000	0,005	0,450	0,070
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,000	0,400	0,400	0,025	0,350	0,100
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,200	0,300	0,100	0,060	0,250	0,120
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,000	0,200	0,010	0,100	0,450	0,100
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,100	0,060	0,050	0,080	0,300	0,130
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,050	0,060	0,200	0,050	0,200	0,050
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,075	0,050	0,500	0,120	0,100	0,075
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,010	0,025	0,800	0,150	0,200	0,130
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,005	0,005	1,000	0,200	0,400	0,150
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,000	0,170	0,600	0,250	0,550	0,110
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,000	0,100	0,200	0,100	0,200	0,200
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,005	0,010	0,400	0,010	0,600	0,250
FX	ASTM-P-0111-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000	0,000

10. Lubricating Oils

10.6. Set Ba, Ca, Mg, P, S, Zn (Designed for ASTM D-4628-97 & D-4927-98)												
		Application	Remarks	Amount	Unit	Ba	Ca	Mg	P	S	Zn	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,025	0,600	0,100	0,005	0,175	0,060	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,000	0,500	0,150	0,200	0,050	0,080	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,100	0,400	0,350	0,150	0,300	0,180	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,175	0,260	0,225	0,250	0,150	0,120	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,150	0,005	0,450	0,005	0,450	0,070	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,000	0,400	0,500	0,025	0,350	0,100	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,100	0,300	0,325	0,060	0,250	0,120	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,200	0,200	0,250	0,100	0,450	0,100	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,050	0,060	0,100	0,080	0,300	0,130	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,075	0,060	0,400	0,050	0,200	0,050	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,010	0,050	0,300	0,120	0,100	0,075	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,000	0,025	0,200	0,150	0,200	0,130	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,175	0,005	0,375	0,200	0,400	0,150	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,005	0,170	0,175	0,250	0,550	0,110	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,000	0,100	0,425	0,100	0,200	0,200	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,005	0,010	0,275	0,010	0,600	0,250	
FX	ASTM-P-0113-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000	0,000	
10.7. Set Ca, Cl, Cu, Mg, P, S, Zn (ASTM D-6443-99)												
		Application	Remarks	Amount	Unit	Ca	Cl	Cu	Mg	P	S	Zn
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,020	0,030	0,010	0,200	0,250	1,000	0,020
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,020	0,020	0,050	0,200	0,020	0,020	0,250
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,020	0,200	0,010	0,040	0,250	0,150	0,250
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,020	0,200	0,050	0,040	0,020	1,000	0,020
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,400	0,020	0,010	0,040	0,020	1,000	0,250
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,400	0,020	0,050	0,040	0,250	0,020	0,020
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,400	0,200	0,010	0,200	0,020	0,020	0,050
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,400	0,200	0,050	0,200	0,250	1,000	0,250
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,200	0,100	0,025	0,080	0,150	0,500	0,100
FX	ASTM-P-0117-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000	0,000	0,000

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10.7. Set Ca, Cl, Cu, Mg, P, S, Zn (Designed for ASTM D-4628-97 & D-4927-96 & D-4951-96 & D-6443-99)													
		Application	Remarks	Amount	Unit	Ca	Cl	Cu	Mg	P	S	Zn	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,300	0,080	0,030	0,060	0,060	0,275	0,060	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,250	0,100	0,000	0,100	0,150	0,000	0,150	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,500	0,000	0,035	0,160	0,150	0,000	0,020	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,350	0,010	0,000	0,120	0,080	0,200	0,000	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,110	0,000	0,015	0,100	0,100	0,300	0,050	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,200	0,100	0,000	0,200	0,050	0,250	0,150	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,000	0,050	0,025	0,000	0,000	0,450	0,020	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,150	0,030	0,000	0,100	0,030	0,400	0,040	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,250	0,150	0,010	0,160	0,000	0,350	0,080	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,110	0,150	0,040	0,005	0,030	0,750	0,150	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,260	0,050	0,000	0,000	0,000	0,750	0,000	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,200	0,000	0,005	0,140	0,080	0,500	0,080	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,005	0,020	0,020	0,200	0,020	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,070	0,150	0,020	0,080	0,140	0,650	0,150	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,050	0,000	0,000	0,000	0,150	0,000	0,000	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,400	0,000	0,001	0,080	0,000	0,500	0,020	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,180	0,020	0,020	0,000	0,020	0,600	0,060	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,400	0,010	0,001	0,010	0,020	0,000	0,000	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,010	0,020	0,040	0,010	0,020	0,200	0,100	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,050	0,005	0,050	0,000	0,008	0,000	0,120	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,200	0,050	0,020	0,080	0,050	0,275	0,050	
FX	ASTM-P-0119-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
10.8. Set Ba, Ca, Cl, Cu, Mg, P, S, Zn (Designed for ASTM D-4628-97 & D-4927-96 & D-4951-96 & D-6443-99)													
		Application	Remarks	Amount	Unit	Ba	Ca	Cl	Cu	Mg	P	S	Zn
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,020	0,020	0,030	0,010	0,200	0,250	1,000	0,020
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,250	0,020	0,020	0,050	0,200	0,020	0,020	0,250
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,020	0,020	0,200	0,010	0,040	0,250	0,150	0,250
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,250	0,020	0,200	0,050	0,040	0,020	1,000	0,020
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,020	0,400	0,020	0,010	0,040	0,020	1,000	0,250
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,250	0,400	0,020	0,050	0,040	0,250	0,020	0,020
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,020	0,400	0,200	0,010	0,200	0,020	0,020	0,050
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,250	0,400	0,200	0,050	0,200	0,250	1,000	0,250
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,130	0,200	0,100	0,025	0,080	0,150	0,500	0,100
FX	ASTM-P-0118-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

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10.8. Set Ba, Ca, Cl, Cu, Mg, P, S, Zn (Designed for ASTM D-4628-97 & D-4927-96 & D-4951-96 & D-6443-99)													
		Application	Remarks	Amount	Unit	Ba	Ca	Cl	Cu	Mg	P	S	Zn
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,100	0,300	0,080	0,030	0,060	0,060	0,275	0,060
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,175	0,250	0,100	0,000	0,010	0,150	0,000	0,150
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,040	0,500	0,000	0,035	0,160	0,150	0,000	0,020
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,020	0,350	0,010	0,000	0,120	0,080	0,200	0,000
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,150	0,110	0,000	0,015	0,100	0,100	0,300	0,050
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,200	0,100	0,000	0,200	0,050	0,250	0,150
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,200	0,000	0,050	0,025	0,000	0,000	0,450	0,020
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,150	0,030	0,000	0,100	0,030	0,400	0,040
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,250	0,150	0,010	0,160	0,000	0,350	0,080
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,110	0,150	0,040	0,005	0,030	0,750	0,150
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,100	0,260	0,050	0,000	0,000	0,000	0,750	0,000
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,050	0,200	0,000	0,005	0,140	0,080	0,500	0,080
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,005	0,020	0,020	0,200	0,020
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,080	0,070	0,150	0,020	0,080	0,140	0,650	0,150
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,010	0,050	0,000	0,000	0,000	0,150	0,000	0,000
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,400	0,000	0,001	0,080	0,000	0,500	0,020
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,180	0,020	0,020	0,000	0,020	0,600	0,060
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,400	0,010	0,001	0,010	0,020	0,000	0,000
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,150	0,010	0,020	0,040	0,010	0,020	0,200	0,100
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,005	0,050	0,005	0,050	0,000	0,008	0,000	0,120
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,100	0,200	0,050	0,020	0,080	0,050	0,275	0,050
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,120	0,200	0,000	0,000	0,000	0,000	0,750	0,000
FX	ASTM-P-0120-SET	lubricating oil	only as set	100ml	%	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

11. XRF Monitors, Control Samples

11.1. XRF Control Samples			All elements ppm														
		Application	Size	Ag	Al	Ba	Ca	Cd	Cl	Cr	Cu	Fe	K	Mg	Mn	Mo	
FX	FLX-O2	Control Sample *	40mm	600	900	800	850	750	200	850	850	900	800	900	900	950	continued
		Continuation from above		Na	Ni	P	Pb	S	Si	Sn	Ti	Br	Zn				
	FLX-O2	Control Sample *	40mm	300	900	900	900	700	850	950	800	1000	800				
XRF Control Samples			All elements ppm														
		Application	Size	Ag	Al	Ba	Ca	Cd	Cl	Cr	Cu	Fe	K	Mg	Mn	Mo	
FX	FLX-OME 5	Control Sample *	40mm	5	5	5	5	5	5	5	5	5	10	5	5	5	continued
FX	FLX-OME 10	Control Sample *	40mm	10	10	10	10	10	10	10	10	10	20	10	10	10	
FX	FLX-OME 25	Control Sample *	40mm	26	26	26	26	26	26	26	26	26	52	26	26	26	
FX	FLX-OME 50	Control Sample *	40mm	49	49	49	49	49	49	49	49	49	98	49	49	49	
FX	FLX-OME 100	Control Sample *	40mm	98	98	98	98	97	98	98	98	98	195	98	98	98	
FX	FLX-OME 250	Control Sample *	40mm	245	246	246	246	243	245	246	246	246	488	246	246	245	
FX	FLX-OME 500	Control Sample *	40mm	491	492	492	492	487	489	491	492	492	976	492	492	489	
FX	FLX-OME 900	Control Sample *	40mm	883	886	886	885	876	881	884	886	886	1756	885	885	881	
FX	FLX-OME 2500	Control Sample *	40mm	2454	2460	2460	2458	2434	2447	2456	2461	2460	4878	2458	2459	2447	
		Continuation from above	Size	Na	Ni	P	Pb	S	Si	Sn	Ti	V	Zn				
FX	FLX-OME 5	Control Sample *	40mm	5	5	5	5	5	5	5	5	5	5				
FX	FLX-OME 10	Control Sample *	40mm	10	10	10	11	10	10	10	10	10	10				
FX	FLX-OME 25	Control Sample *	40mm	26	26	26	28	26	26	26	26	26	26				
FX	FLX-OME 50	Control Sample *	40mm	49	49	49	53	49	49	49	49	49	49				
FX	FLX-OME 100	Control Sample *	40mm	98	98	98	105	98	98	98	98	98	98				
FX	FLX-OME 250	Control Sample *	40mm	246	246	246	263	246	246	246	246	246	246				
FX	FLX-OME 500	Control Sample *	40mm	492	492	492	527	492	492	492	492	492	492				
FX	FLX-OME 900	Control Sample *	40mm	886	885	886	948	886	885	886	885	886	885				
FX	FLX-OME 2500	Control Sample *	40mm	2460	2459	2462	2633	2460	2459	2461	2459	2460	2459				
XRF Control Samples				%	All elements ppm												
		Application	Size	S	V	Fe	Ni										
FX	FLX-OBlank	Control Sample *	40mm	...	...	...	...										
FX	FLX-O3	Control Sample *	40mm	2	...	...	...										
FX	FLX-O4	Control Sample *	40mm	2	100	100	100										
FX	FLX-O5	Control Sample *	40mm	2	250	250	250										

* Glass beads made from borate glass. These samples have the status of an RM. These control samples are also available on customer request.

Please ask for a quotation. They can be used for: Petrochemical Calibrations like Gasoline, Diesel, Lead, Grease, Heavy Oil, Mineral Oil and Lubricants

11. XRF Monitors, Control Samples

11.2. XRF Drift Monitors		All elements %															
		Application	Size	Na	Mg	Al	Si	P	S	Cl	Ca	Ti	V	Cr	Fe	Ni	
FX	FLX-O1	Drift Monitor**	40mm	7,4	3,0	1,6	23,3	0,4	0,2	0,5	3,6	0,6	0,6	0,7	0,7	0,8	continued
		Continuation from above	Size	Cu	Zn	Mo	Sn	Ba	Pb								
FX	FLX-O1	Drift Monitor**	40mm	0,8	3,2	1,3	0,8	3,6	2,7								
XRF Drift Monitors		Application	Qty	F	Na2O	Al2O3	SiO2	P2O5	CaO	V2O5	NiO	ZnO	S	MoO ³			
FX	FLX-O6	oil, organic	Monitor	40 x 6	3,2	2,1	5,2	15,6	0,2	10,5	2,6	4,08	2,3	1,7	1,3		

** This monitor is made from silicate glass and used to correct for the drift of XRF- Instruments.



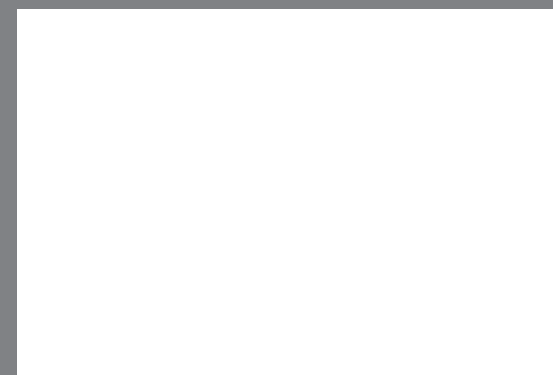
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Official agent