

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
- Glass Control Samples



Two Companies - One Solution

Fluxana and their partner company HD Elektronik are dedicated to serve and support the X-ray fluorescence (XRF) spectroscopist. XRF is used to perform elemental analysis of a diverse range of materials, from oils and fuels to complex mineralogical materials. The method is utilized by a wide range of industries and academic institutions for rapid and precise materials analysis, and complies with many National and International standards such as ASTM, ISO and DIN. However, the inherent precision of the modern XRF spectrometer is wasted without paying attention to the correct sample preparation prior to analysis, as well as the appropriate calibration and validation of the method used.

We supply users of XRF, irrespective of their spectrometer manufacturer, a wide selection of accessories such as sample cups, sample support films, chemicals and certified reference materials. Furthermore we offer a spectrum of different sample preparation machines like fusion machines, mills and presses.

A rapidly growing aspect of our business is the provision of a full application and method development service. This service can take the form of detailed training courses, right through to turnkey application packages that include all the required sample preparation equipment, calibration standards, validation samples and drift monitors. The whole package can even, if requested, be installed on the customer's spectrometer by one of Fluxana's XRF experts. Application packages are available which serve many industries including cement, glass, metals and petrochemicals.



FLUXANA: Analytical laboratory, sales, support and marketing

The head office of FLUXANA is situated in Bedburg-Hau in the lower Rhine area of Germany. This brand-new state of the art facility serves as the warehouse for Fluxana's consumable products as well as the location of our Research and Development department. Our R&D Scientists are dedicated to bringing new products and services to market, as well as hosting customer training courses and seminars. Our International Service Department is also located in the Bedburg-Hau facility.

An additional branch of FLUXANA is located in the city of Ilmenau, in Eastern Germany. In this location, XRF drift monitor glasses are produced according to the specifications and requirements of our customers.

HD Elektronik: Manufacturing

The head office of HD Elektronik is in the city of Kleve, only a few kilometers from Bedburg-Hau. The production of automated fused-bead preparation machines has been located here since 1997. Through the cooperation with FLUXANA, the range of fusion machines has been greatly extended so that today, a variety of models can be supplied to suit different sample throughput and budgetary requirements. Further product developments have resulted in numerous ancillary sample preparation devices also being offered, such as an exciting new range of manual and automatic pressed pellet machines, including a fully automatic 40 ton press with integrated die.

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www.fluxearch.com

The online database for reference materials

Searching reference materials in the easiest way!
Just Enter, Search, Find and Save time...

Your Registration code: **FXMM**



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

Online database for Reference Materials

www.fluxearch.com

Your registration code: FXMM

Other Products

FLUXANA® Sample Preparation for X-ray Fluorescence Analysis XRF

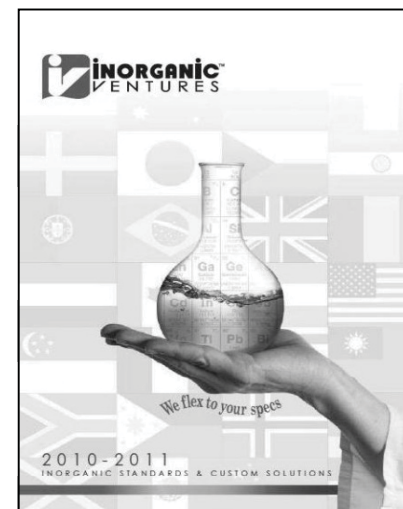
FLUXANA® Reference Materials for Metals (Disks and Chips, SUS,...) UPDATED in 2011

FLUXANA® Reference Materials Minerals (Industrial, Coal, ROHS/Plastics) UPDATED in 2011

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

FLUXANA® Reference Materials for Aluminum (Disks and Chips, SUS,...) UPDATED in 2010

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®	31	24	23	9
SC-3335	Cup, ring, cap for Philips/Panalytical®	35	28	35	17
SC-3340	Inner ring, outer ring, cap for: Bruker®SRS, S4, S8, ARL Optimix®	41	34	25	17
SC-3340T	Inner ring, outer ring, cap for: Bruker®SRS, S4, S8,	40	32	36	22
SC-3345	Inner ring, outer ring, cap universal for 45mm	45	37	37	33
SC-3351	Cup, cap universal for 51,5mm holder	51	44	41	48
SC-4031	Cup, ring, single open ended, universal open for 32mm holder	31	24	24	9
SC-4047	Cup, ring, single open ended, for Horiba®	46	35	18	12
SC-4131	Cup, ring, collar single open ended, universal for 32mm holder	32	25	24	9
SC-4140	Cup, ring, collar single open ended, universal for 40mm holder	40	32	23	16
SC-4231	Cup, 2 rings, double open ended, universal for 32mm holder	31	24	24	10
SC-4240	Cup, 2 rings, double open ended, universal for 40mm holder	39	32	23	18
SC-4331	Cup, ring, cap universal for 32mm holder	31	24	26	9
SC-4335	Cup, ring, cap for Philips/Panalytical®	34	27	36	17
SC-4340	Cup, ring, cap universal for 40mm holder	39	31	25	15
SC-4345	Cup, cap for Philips/Panalytical®	45	38	41	35
SC-6232	Cup, 2 rings, double open ended for Spectro XEPOS, XLAB2000®	32	26	21	11
SC-6332	Cup, ring, cap for Spectro XEPOS, XLAB 2000®	32	26	23	11
SC-7332	Inner cup and cap, designed for Oxford®	34	28	38	16
SC-7332inner	Only inner cup, designed for Oxford LABX®	32	28	36	22
SC-7332cap	Only cap, designed for Oxford LABX®	-	-	-	-
SC-8047	Cup, ring, single open ended, for Horiba® 47mm holder	42	36	19	18
SC-MC-1520	XRF micro sample cupx, double open ended with vented caps	31	15	27	3,6



Our sample cups are designed for use in XRF.
All cups have been optimized and approved by our customers worldwi

Please ask for a quote.

One set contains 100 pieces. Caps and rings are packed separately! No cutting necessary!

FLUXANA® Thin Films for Liquid Analysis

Part No.	Description	Thickness μm	Packaging
TF-025	Microporous	-	Roll 6,4cmx5,1m
TF-112	Mylar®	12	Roll 7,6cmx91,4m
TF-115	Ultrapolyester	1,5	Roll 7,6cmx91,4m
TF-125	Mylar®	2,5	Roll 7,6cmx91,4m
TF-125-345	Mylar®	2,5	Squares 7,6cmx7,6cm (500pcs.)
TF-12560	PolyRep	Mylar® 2,5 + PP 6,0	2 Rolls a 7,6cmx91,4m
TF-135	Mylar®	3,5	Roll 7,6cmx91,4m
TF-135-255	Mylar®	3,5	Circle 6,4cm (500pcs.)
TF-135-345	Mylar®	3,5	Square 7,6cmx7,6cm (500pcs.)
TF-135-355	Mylar®	3,5	Circle 8,9cm (500pcs.)
TF-160	Mylar®	6	Roll 7,6cmx91,4m
TF-160-255	Mylar®	6	Circle 6,4cm (500pcs.)
TF-160-345	Mylar®	6	Square 7,6cmx7,6cm (500pcs.)
TF-160-355	Mylar®	6	Circle 8,9cm (500pcs.)
TF-212	Polypropylene	12	Roll 7,6cmx91,4m
TF-212-345	Polypropylene	12	Square 7,6cmx7,6cm (500pcs.)
TF-240	Polypropylene	4	Roll 7,6cmx91,4m
TF-240-30	Polypropylene	4	Circle 7,6cm (100pcs.)
TF-240-255	Polypropylene	4	Circle 6,4cm (500pcs.)
TF-240-345	Polypropylene	4	Square 7,6cmx7,6cm (500pcs.)
TF-240-355	Polypropylene	4	Circle 8,9cm (500pcs.)
TF-250	Polypropylene	5	Roll 7,6cmx91,4m
TF-260	Polypropylene	6	Roll 7,6cmx91,4m
TF-260-255	Polypropylene	6	Circle 6,4cm (500pcs.)
TF-260-345	Polypropylene	6	Square 7,6cmx7,6cm (500pcs.)
TF-260-355	Polypropylene	6	Circle 8,9cm (500pcs.)
TF-475	Kapton®	7,5	Roll 7,6cmx91,4m
TF-475-345	Kapton®	7,5	Square 7,6cmx7,6cm (500pcs.)
TF-500	XRF Tape	-	Roll 25mmx66m
TF-LS-240-255	Polypropylene Low Sulfur	4	Circle 6,4cm (500pcs.)
WZ-0001	Preparation tool for our sample cups	-	Measurement: 56x20mm



The preferences of our thin films:

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

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!

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
VHG	S20MIN-5-100	sulfur in mineral oil	100ml	5	0,0005	
VHG	S20MIN-10-100	sulfur in mineral oil	100ml	10	0,0010	XRF film used for this application: Mylar®, Polypropylene
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	0,1000	
VHG	S20MIN-1500-100	sulfur in mineral oil	100ml	1500	0,1500	
VHG	S20MIN-3000-100	sulfur in mineral oil	100ml	3000	0,3000	
VHG	S20MIN-5000-100	sulfur in mineral oil	100ml	5000	0,5000	
VHG	S20MIN-7500-100	sulfur in mineral oil	100ml	7500	0,7500	
VHG	S20MIN-1%-100	sulfur in mineral oil	100ml	10000	1,0000	
VHG	S20MIN-2%-100	sulfur in mineral oil	100ml	20000	2,0000	
VHG	S20MIN-3%-100	sulfur in mineral oil	100ml	30000	3,0000	
VHG	S20MIN-4%-100	sulfur in mineral oil	100ml	40000	4,0000	
VHG	S20MIN-5%-100	sulfur in mineral oil	100ml	50000	5,0000	
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	0,1000	
VHG	SMIN-1500-100	sulfur in mineral oil	100ml	1500	0,1500	
VHG	SMIN-3000-100	sulfur in mineral oil	100ml	3000	0,3000	
VHG	SMIN-5000-100	sulfur in mineral oil	100ml	5000	0,5000	
VHG	SMIN-7500-100	sulfur in mineral oil	100ml	7500	0,7500	
VHG	SMIN-1%-100	sulfur in mineral oil	100ml	10000	1,0000	
VHG	SMIN-2%-100	sulfur in mineral oil	100ml	20000	2,0000	
VHG	SMIN-3%-100	sulfur in mineral oil	100ml	30000	3,0000	
VHG	SMIN-4%-100	sulfur in mineral oil	100ml	40000	4,0000	
VHG	SMIN-5%-100	sulfur in mineral oil	100ml	50000	5,0000	

1.Sulfur

1.3. Sulfur in Mineral Oil		Application	Qty	S µg/g	S %	
CON	150-400-025	sulfur in mineral oil	100ml	0	0,0000	XRF film used for this application: Mylar®, Polypropylene
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 %	
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	2771	sulfur in diesel fuel oil	100ml *		0,102	0,0000102	* additional hazardous fee

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
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	1,0000
VHG	SDSL-2%-100	sulfur in diesel		5x20ml	20000	2,0000
VHG	SDSL-3%-100	sulfur in diesel		5x20ml	30000	3,0000
VHG	SDSL-4%-100	sulfur in diesel		5x20ml	40000	4,0000
VHG	SDSL-5%-100	sulfur in diesel		5x20ml	50000	5,0000

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	Sulfur concentration calculated from % sulfur in di- n-butyl sulfide
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 in Heavy Distillate Kerosene

		Application	Qty	S µg/g	S %	
FX	SK-HD-BL-20ML-PAK	sulfur in kerosene	5x20ml	0	0	Sulfur concentration calculated from % sulfur in di- n-butyl sulfide
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	XRF film used for this application: Mylar®
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			

1. Sulfur

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-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	100ml	0
FX	STP-1X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	10
FX	STP-2X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	20
FX	STP-3X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	30
FX	STP-5X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	50
FX	STP-10X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	100
FX	STP-20X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	200
FX	STP-30X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	300
FX	STP-40X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	400
FX	STP-60X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	600
FX	STP-100X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	1000
FX	STP-200X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	2000
FX	STP-300X-100ML	sulfur in isooctane	*	D2622-98 D-4294-98	100ml	3000
FX	STP-CAL-100ML-SET	sulfur in isooctane	*	D2622-98 D-4294-98	13x100ml	

*additional hazardous fee

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	*	100ml	0	0
VHG	SISO-5-100	sulfur in isooctane	*	100ml	5	0,0005
VHG	SISO-10-100	sulfur in isooctane	*	100ml	10	0,0010
VHG	SISO-25-100	sulfur in isooctane	*	100ml	25	0,0025
VHG	SISO-50-100	sulfur in isooctane	*	100ml	50	0,0050
VHG	SISO-75-100	sulfur in isooctane	*	100ml	75	0,0075
VHG	SISO-100-100	sulfur in isooctane	*	100ml	100	0,0100
VHG	SISO-200-100	sulfur in isooctane	*	100ml	200	0,0200
VHG	SISO-300-100	sulfur in isooctane	*	100ml	300	0,0300
VHG	SISO-400-100	sulfur in isooctane	*	100ml	400	0,0400
VHG	SISO-500-100	sulfur in isooctane	*	100ml	500	0,0500
VHG	SISO-750-100	sulfur in isooctane	*	100ml	750	0,0750
VHG	SISO-1000-100	sulfur in isooctane	*	100ml	1000	0,100
VHG	SISO-3000-100	sulfur in isooctane	*	100ml	3000	0,300

*additional hazardous fee

1. Sulfur

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 isooct./toluene	D-2622, D-4294, D-6445	5x20ml	0	0,0000	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 isooct./toluene	D-2622, D-4294, D-6445	5x20ml	5	0,0005		
FX	D-2622-LL-10X-100ML	sulfur isooct./toluene	D-2622, D-4294, D-6445	5x20ml	10	0,0010		
FX	D-2622-LL-30X-100ML	sulfur isooct./toluene	D-2622, D-4294, D-6445	5x20ml	30	0,0030		
FX	D-2622-LL-50X-100ML	sulfur isooct./toluene	D-2622, D-4294, D-6445	5x20ml	50	0,0050		
FX	D-2622-LL-75X-100ML	sulfur isooct./toluene	D-2622, D-4294, D-6445	5x20ml	75	0,0075		
FX	D-2622-LL-100X-100ML	sulfur isooct./toluene	D-2622, D-4294, D-6445	5x20ml	100	0,0100		
FX	D-2622-LL-300X-100ML	sulfur isooct./toluene	D-2622, D-4294, D-6445	5x20ml	300	0,0300		
FX	D-2622-LL-500X-100ML	sulfur isooct./toluene	D-2622, D-4294, D-6445	5x20ml	500	0,0500		
FX	D-2622-LL-1000X-100ML	sulfur isooct./toluene	D-2622, D-4294, D-6445	5x20ml	1000	0,1000		
FX	D-2622-LL-CAL-100ML-SET	sulfur isooct./toluene	D-2622, D-4294, D-6445	10x5x20ml			XRF film used for this application: Mylar®	
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 isooct./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 isooct./toluene	D-2622, D-6334, D-6445	5x20ml	400	0,040		
FX	D-2622-LL-600X-100ML	sulfur isooct./toluene	D-2622, D-6334, D-6445	5x20ml	600	0,060		
FX	D-2622-LL-700X-100ML	sulfur isooct./toluene	D-2622, D-6334, D-6445	5x20ml	700	0,070		
FX	D-2622-LL-800X-100ML	sulfur isooct./toluene	D-2622, D-6334, D-6445	5x20ml	800	0,080		
FX	D-2622-LL-900X-100ML	sulfur isooct./toluene	D-2622, D-6334, D-6445	5x20ml	900	0,090		
FX	D-2622-LL-1100X-100ML	sulfur isooct./toluene	D-2622, D-6334, D-6445	5x20ml	1100	0,110		
FX	D-2622-LL-1200X-100ML	sulfur isooct./toluene	D-2622, D-6334, D-6445	5x20ml	1200	0,120		
								XRF film used for this application: Mylar®
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	1,000		
VHG	SCRD-2%-100	sulfur in crude oil		100ml	20000	2,000		
VHG	SCRD-3%-100	sulfur in crude oil		100ml	30000	3,000		
VHG	SCRD-4%-100	sulfur in crude oil		100ml	40000	4,000		
VHG	SCRD-5%-100	sulfur in crude oil		100ml	50000	5,000		
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		

1. Sulfur

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	1,000
VHG	SRES-2%-100	sulfur in residual oil		100ml	20000	2,000
VHG	SRES-3%-100	sulfur in residual oil		100ml	30000	3,000
VHG	SRES-4%-100	sulfur in residual oil		100ml	30000	4,000
VHG	SRES-5%-100	sulfur in residual oil		100ml	40000	5,000
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	0,0000
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	1
VHG	SN-SET1	#2	only as set	2ml	5	5
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
1.14. Total Sulfur - Available in Sets of 6 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	0	
VHG	SUVF-SET-1	Range Set 1	only as set	2ml	1	
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	
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	0	
VHG	SUVF-SET-2	Range Set 2	only as set	2ml	5	
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	0	
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	

1. Sulfur

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	0,00
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.

* additional hazardous fee

2. Iron, Nickel, Vanadium, Sulfur

2.1. Sulfur and Metals in Mineral Oil					%	µg/g	µg/g	µg/g
		Application		Qty	S	Fe	Ni	V
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					%	µg/g	µg/g	µg/g
		Application		Qty	S	Fe	Ni	V
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					%	µg/g	µg/g	µg/g
		Application		Qty	S	Fe	Ni	V
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	XRF film used for this application: Mylar®
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				

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	0.05 Wt. In Xylene-Mineral Oil	XRF film used for this application: Mylar®

5. Chlorine

5.1. Chlorine in Oil, For ICP, XRF and Other Techniques			Qty	µg/g Cl	% Cl
		Application			
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)			Qty	µg/g Pb	% Pb
		Application			
VHG	PBISO-BLK-100G	Lead in Gasoline	100g	0	0,0000
VHG	PBISO-0,1-100G	Lead in Gasoline	100g	37	0,0037
VHG	PBISO-1-100G	Lead in Gasoline	100g	370	0,0370
VHG	PBISO-2-100G	Lead in Gasoline	100g	740	0,0740
VHG	PBISO-3-100G	Lead in Gasoline	100g	1110	0,1110
VHG	PBISO-4-100G	Lead in Gasoline	100g	1480	0,1480
VHG	PBISO-5-100G	Lead in Gasoline	100g	18520	1,8520
VHG	PBISOSETA-7x100G	Lead in Gasoline	Set 7x100g		
VHG	PBISO-BLK-100G	Lead in Gasoline	100g	0	0,0000
VHG	PBISO-0,001-100G	Lead in Gasoline	100g	0,37	0,000037
VHG	PBISO-0,005-100G	Lead in Gasoline	100g	1,85	0,000185
VHG	PBISO-0,010-100G	Lead in Gasoline	100g	3,7	0,000370
VHG	PBISO-0,050-100G	Lead in Gasoline	100g	18,5	0,001850
VHG	PBISO-0,100-100G	Lead in Gasoline	100g	37	0,0037
VHG	PBISO-0,300-100G	Lead in Gasoline	100g	111	0,0111
VHG	PBISOSETC-7x100G	Lead in Gasoline	Set 7x100g		

* additional hazardous fee

6.2. Bismuth Internal Standard for ASTM D5059			Qty	g/L Bi
		Application	Remarks	
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	ROSFAG1-25G	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	ROSFNA3-25G	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	ROSFCE110-25G	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	ROSFCE24-25G	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	ROSFCE110-100G	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	Lathanum	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	Lathanum	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
FX	MA-900-100G	Hydrocarbon Oil	Also available in 200g	100g	900
FX	MA-1000-100G	Hydrocarbon Oil	Also available in 200g	100g	1000
FX	MA-3000-100g	Hydrocarbon Oil	Also available in 200g	100g	3000
FX	MA-5000-100g	Hydrocarbon Oil	Also available in 200g	100g	5000
					µg/g Ca
					900
					1000
					3000
					5000
					µg/g Mg
					900
					1000
					3000
					5000
					µg/g P
					900
					1000
					3000
					5000
					µg/g Zn
					900
					1000
					3000
					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
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
			Base Oils are used for blending calibration standards for spectrometric analysis of metals in oil.	

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						

see also XRF Control Samples (Chapter 11.1)

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	continued
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	10						
VHG	V21+K-30-100G	21 wear metals	100g	µg/g	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						
VHG	V21+K-100-100G	21 wear metals	100g	µg/g	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						
VHG	V21+K-500-100G	21 wear metals	100g	µg/g	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						
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-10-200G	21 wear metals	200g	µg/g	10	10	10	10	10	10	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	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	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	100	100	100	100	100	100	continued
VHG	V21+K-300-200G	21 wear metals	200g	µg/g	300	300	300	300	300	300	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	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	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	10						
VHG	V21+K-30-200G	21 wear metals	200g	µg/g	30	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	50						
VHG	V21+K-100-200G	21 wear metals	200g	µg/g	100	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	300						
VHG	V21+K-500-200G	21 wear metals	200g	µg/g	500	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	900						

see also XRF Control Samples (Chapter 11.1)

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	10	
VHG	V21-30-100G	21 wear metals	100g	µg/g	30	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	50	50	
VHG	V21-100-100G	21 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100	continued
VHG	V21-300-100G	21 wear metals	100g	µg/g	300	300	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	500	500	
VHG	V21-900-100G	21 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900	900	900	
Continuation from above																			
		Application	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	10								
VHG	V21-30-100G	21 wear metals	100g	µg/g	30	30	30	30	30	30	30								
VHG	V21-50-100G	21 wear metals	100g	µg/g	50	50	50	50	50	50	50								
VHG	V21-100-100G	21 wear metals	100g	µg/g	100	100	100	100	100	100	100								
VHG	V21-300-100G	21 wear metals	100g	µg/g	300	300	300	300	300	300	300								
VHG	V21-500-100G	21 wear metals	100g	µg/g	500	500	500	500	500	500	500								
VHG	V21-900-100G	21 wear metals	100g	µg/g	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	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	10	
CON	150-021-008	21 wear metals	100g	µg/g	30	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	50	50	
CON	150-021-003	21 wear metals	100g	µg/g	100	100	100	100	100	100	100	100	100	100	100	100	100	100	continued
CON	150-021-009	21 wear metals	100g	µg/g	300	300	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	500	500	
CON	150-021-015	21 wear metals	100g	µg/g	900	900	900	900	900	900	900	900	900	900	900	900	900	900	
Continuation from above																			
		Application	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	10								
CON	150-021-008	21 wear metals	100g	µg/g	30	30	30	30	30	30	30								
CON	150-021-010	21 wear metals	100g	µg/g	50	50	50	50	50	50	50								
CON	150-021-003	21 wear metals	100g	µg/g	100	100	100	100	100	100	100								
CON	150-021-009	21 wear metals	100g	µg/g	300	300	300	300	300	300	300								
CON	150-021-011	21 wear metals	100g	µg/g	500	500	500	500	500	500	500								
CON	150-021-015	21 wear metals	100g	µg/g	900	900	900	900	900	900	900								

see also XRF Control Samples (Chapter 11.1)

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
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																		
		Application	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
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																		
		Application	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						

see also XRF Control Samples (Chapter 11.1)

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

see also XRF Control Samples (Chapter 11.1)

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	continued
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																			
		Application	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	continued
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																			
		Application	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	...	...	...	...	...	...	...		

see also XRF Control Samples (Chapter 11.1)

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	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

see also XRF Control Samples (Chapter 11.1)

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

10. Lubricating Oils

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 Drift Monitors

11.1. XRF Control Samples				% All elements in ppm																										
	Application	Qty	S	Ag	Al	Ba	Bi	Br	Ca	Cd	Cl	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Si	Sn	Ti	V	Zn	Zr	
FI001962	PR24 FX FLX-O blank	Control Sample *	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002854	PR24 FX FLX-O2	Control Sample *	40mm	...	600	900	800	...	1000	850	750	200	850	850	900	800	900	900	950	300	900	900	900	700	850	950	800	...	800	...
FI001963	PR24 FX FLX-O3	Control Sample *	40mm	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI001964	PR24 FX FLX-O4	Control Sample *	40mm	2	...	...	...	...	...	...	...	...	...	100	...	...	...	...	...	...	100	...	...	...	...	...	...	...	100	...
FI001965	PR24 FX FLX-O5	Control Sample *	40mm	2	...	...	...	...	...	...	...	...	...	250	...	...	...	...	...	...	250	...	...	...	...	...	...	...	250	...
FI001966	PR24 FX FLX-OME 5	Control Sample *	40mm	...	5	5	5	...	...	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
FI001967	PR24 FX FLX-OME 10	Control Sample *	40mm	...	10	10	10	...	...	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
FI001968	PR24 FX FLX-OME 25	Control Sample *	40mm	...	26	26	26	...	...	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
FI001969	PR24 FX FLX-OME 50	Control Sample *1)	40mm	...	49	49	49	...	...	49	49	49	49	49	49	49	49	49	49	49	49	49	53	49	49	49	49	49	49	49
FI001970	PR24 FX FLX-OME 100	Control Sample *1)	40mm	...	99	100	100	...	...	99	99	99	100	100	99	99	100	99	100	99	100	100	107	100	100	100	100	100	100	100
FI001971	PR24 FX FLX-OME 250	Control Sample *	40mm	...	245	246	246	...	...	246	243	245	246	246	246	246	246	246	245	246	246	246	263	246	246	246	246	246	246	246
FI001972	PR24 FX FLX-OME 500	Control Sample *	40mm	...	491	492	492	...	...	492	487	489	491	492	492	492	492	492	489	492	492	492	527	492	492	492	492	492	492	492
FI001973	PR24 FX FLX-OME 900	Control Sample *	40mm	...	883	886	886	...	...	885	876	881	884	886	886	888	885	885	881	886	885	886	948	886	885	886	885	886	885	885
FI002855	PR24 FX FLX-OME 1000	Control Sample *1)	40mm	...	1564	530	554	805	...	671	2504	...	556	568	563	424	530	538	992	530	577	530	618	441	606	506	556	537	635	1814
FI001974	PR24 FX FLX-OME 2500	Control Sample *	40mm	...	2454	2460	2460	...	...	2458	2434	2447	2456	2461	2460	2468	2458	2459	2447	2460	2459	2462	2633	2460	2459	2461	2459	2460	2459	...

1) also available in a set FI002856

XRF Control Samples																														
	Set	Qty	Al	Ba	Bi	Ca	Cd	Cl	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Si	Sn	Ti	V	Zn	Zr				
FI002563	PR24 FX FLX-LOC-Al	FI002587 or FI002856	40mm	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002564	PR24 FX FLX-LOC-Ba	FI002587 or FI002856	40mm	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002565	PR24 FX FLX-LOC-Bi	FI002587 or FI002856	40mm	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002566	PR24 FX FLX-LOC-Ca	FI002587 or FI002856	40mm	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002567	PR24 FX FLX-LOC-Cd	FI002587 or FI002856	40mm	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002568	PR24 FX FLX-LOC-Cl	FI002587 or FI002856	40mm	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002569	PR24 FX FLX-LOC-Cr	FI002587 or FI002856	40mm	...	...	...	...	...	...	0,5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002570	PR24 FX FLX-LOC-Cu	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002571	PR24 FX FLX-LOC-Fe	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002572	PR24 FX FLX-LOC-K	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002573	PR24 FX FLX-LOC-Mg	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002574	PR24 FX FLX-LOC-Mn	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002575	PR24 FX FLX-LOC-Mo	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002576	PR24 FX FLX-LOC-Na	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002577	PR24 FX FLX-LOC-Ni	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...	...
FI002578	PR24 FX FLX-LOC-P	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...	...
FI002579	PR24 FX FLX-LOC-Pb	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...	...
FI002580	PR24 FX FLX-LOC-S	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...	...
FI002581	PR24 FX FLX-LOC-Si	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...	...
FI002582	PR24 FX FLX-LOC-Sn	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...	...
FI002583	PR24 FX FLX-LOC-Ti	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...	...
FI002584	PR24 FX FLX-LOC-V	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...	...	...
FI002585	PR24 FX FLX-LOC-Zn	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...	...
FI002586	PR24 FX FLX-LOC-Zr	FI002587 or FI002856	40mm	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,0	...	...
FI002587	PR24 FX FLX-LOC-Set	FI002587	set	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FI002856	PR24 FX FLX-OME-Oil-Set	FI002856	set	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Glass beads made from borate glass. These samples have the status of an RM. These control samples are also available on customer request. The samples are also separately available. The samples can be used as control samples for an existing calibration e.g. DIN 51399-2. After determination of the real concentrations they can also be used as calibration standards to rebuild the application. Concentrations are in µg/g. They are only indicative and calculated on glass base. If they are used in an oil calibration as control samples the measured concentrations have to be divided by factor 2.

11. XRF Monitors, Control Samples

11.1.	XRF Control Samples			Application	Size	%		All elements ppm											
						S	Hg	Pb	Ni	Cr	Cu	Zn	As	Cd	Tl	Sb	Co	Mn	V

FI002961	FX	FLX-OIP593	Control Sample *	40mm	1	10	50	10	10	80	200	10	10	10	10	10	10	10	10
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* Glass bead made from borate glass. These samples have the status of an RM. Used to control liquid waste according IP 593. Used in an oil calibration as control sample the measured concentrations will be half of the certified values in glass.

11.2.	XRF Drift Monitors			Application	Size	All elements %																	
						Na	Mg	Al	Si	P	S	Cl	Ca	Ti	V	Cr	Fe	Ni	Cu	Zn	Mo	Sn	Ba	Pb

FI001925	FX	FLX-01	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	0,8—3,2	1,3	0,8	3,6	2,7
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XRF Drift Monitors				Application	Size												
						F	Na2O	Al2O3	SiO2	P2O5	CaO	V2O5	NiO	ZnO	S	MoO3	

FI001926	FX	FLX-06	Monitor	40 x 6mm	3,2	2,1	5,2	15,6	0,2	10,5	2,6	4,08	2,3	1,7	1,3
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** This monitor is made from silicate glass and used to correct for the drift of XRF- Instruments.



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