

XRF

Consumables and Accessories 2008



www.oxford-instruments.com
Tel: 33 (0) 1 69 85 25 29
Fax: 33 (0) 1 69 41 86 80
Email: xrf.consumables@oxinst.com

Worldwide Technology Leader





The Business of Science®

Table of Contents




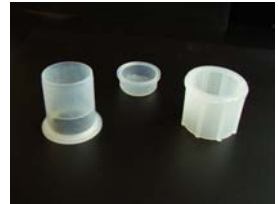
Sample Holders and Disposable Sample Cell	3
Sample Holders – Liquids and Powders	3
Disposable Sample Cell Inners – Liquids and Powders.....	3
Disposable Sample Cell Inners – Greases and Pastes	4
Disposable Sample Cell – Solids and Liquids.....	4
Secondary Safety Windows	4
Sample Holders – Pressed Pellets.....	5
Sample Holders – Paper	5
Sample Preparation	6
Sample preparation – General	6-7
Sample Preparation – Pressed Pellets	8
Sample Preparation – Fusion Beads	9
Sample Preparation – Presses and Mills	9
Films	10
Standards	11-13
Printer Consumables	13
X-Rays Bulbs	14
'O' Rings and Grease	15
Accessories	16
Consumable Packages.....	17-18
Setting Up Samples List'.....	19-23
Standards Concentrations'	24-26

Description	Qty	Reference
-------------	-----	-----------

Sample Holders – Liquids and Powders


	<p>L242 Aluminium Sample Cups</p> <p>Unique reusable sample cups for use with disposable inners (ref 54-LX1011/100) and lids (ref 54-LX1012/100) Minimises waste 1 box of 10 includes the aluminium sample cups + disposable inner + lid</p>	<p>1 box of 10</p>	<p>54-L242</p>
	<p>Polypropylene Solvent Proofed Sample Cups</p> <p>Solvent proofed sample cups made of PP, for use with disposable inners(ref 54-LX1011/100) and lids (ref 54-LX1012/100) Recommended for acidic samples. 1 box of 10 includes the PP sample cups + disposable inner + lid</p>	<p>1 box of 10</p>	<p>54-L241</p>

Disposable Sample Cell Inners – Liquids and Powders



	<p>CK-100 Consumables Kit</p> <p>Disposable inners and lids for use with L242 sample cups</p>	<p>1 box of 100 disposable inners (LX1011) and 100 lids (LX1012)</p>	<p>54-CK-100</p>
	<p>Disposable Inners</p> <p>Disposable inners for use with L242 sample cups ensure perfect film tension every time for consistent results with liquid and powder samples.</p>	<p>1 box of 100</p>	<p>54-LX1011/100</p>
	<p>Lids</p> <p>Lids for use with L242 sample cups / disposable inners (LX1011/100) protect liquid and powder samples from contamination. Minimises any loss due to vaporisation.</p>	<p>1 box of 100</p>	<p>54-LX1012/100</p>
	<p>Disposable Sample Cups</p> <p>The fully disposable sample cup can be used with all our XRF systems, as its dimensions are the same as these of our L242 aluminium cup. It can be used with all our XRF films, and fits in our safety secondary window. Minimise cross-contamination issues when measuring low concentrations of elements. No need to recalibrate or restandardise. Manufactured exclusively for Oxford Instruments</p>	<p>1 box of 100</p>	<p>54-LX6922</p>

Description	Qty	Reference
-------------	-----	-----------





Disposable Sample Cell Inners – Greases and Pastes

	<p>Butter Sampling Caps</p> <p>Butter sampling caps designed for the analysis of greases and pastes. For use with L242 sample cups and LX1011 inners.</p>	<p>1 Box of 100</p>	<p>54-LX1015</p>
--	--	---------------------	-------------------------

Disposable Sample Cell – Solids and Liquids


	<p>Sealed sample cells with lids</p> <p>Sealed sample cells for use with volatile liquids and for holding 20mm diameter filter papers.</p>	<p>1 Box of 100</p>	<p>54-EX0013</p>
	<p>Double open-end sample cells with lids</p> <p>Double open-end sample cells for use with powders, pastes, solids and liquids. The sample cell consists of an open body, a snap-on ring and a lid. This sample is also used for the analysis of gemstones using a custom-designed lid.</p>	<p>1 Box of 100</p>	<p>54-EX0002</p>

Secondary Safety Windows

	<p>Secondary Safety Window</p> <p>Secondary safety window minimises any potential instrument contamination in the event of sample leakage.</p>	<p>1</p>	<p>54-LX6879-2</p>
	<p>Metallic Secondary Safety Window</p> <p>Secondary safety window minimises any potential instrument contamination in the event of sample leakage.</p>	<p>1</p>	<p>54-LX6648-1</p>
	<p>Secondary Safety Window Retaining Ring</p> <p>Secondary safety window retaining ring for use with metallic secondary safety window.</p>	<p>1</p>	<p>54-LX6647-1</p>
	<p>Secondary Window</p> <p>Secondary window for ED2000.</p>	<p>1</p>	<p>54-XA1109-4</p>

Description	Qty	Reference
-------------	-----	-----------

Sample Holders – Pressed Pellets

	<p>Sample Holder for 40mm x 15mm Pressed Pellets</p> <p>Simple, easy to use spring loaded holder for pressed pellet analysis ensures consistent results.</p>	1	54-Q59
	<p>Sample Holder for 31mm x 15mm Pressed Pellets</p> <p>Simple, easy to use spring loaded holder for pressed pellet analysis ensures consistent results.</p>	1	54-Q59/XR
	<p>Stainless Steel Holder for 35mm x 13mm Pressed Pellets</p> <p>Simple, easy to use spring loaded stainless steel holder for pressed pellet analysis ensures consistent results.</p>	1	54-Q56

Sample Holders - Paper

	<p>Paper Sample Stage (Light Element)</p> <p>For Si on Paper applications Optimised paper sample stage ensures perfect sample presentation for consistent results.</p>	1	54-L229
	<p>Paper Sample Stage (Heavy Element)</p> <p>Optimised paper sample stage ensures perfect sample presentation for consistent results.</p>	1	54-L230
	<p>Paper Stage Outer</p> <p>Paper Stage Outer for use with reference 54-L229 and 54-L230.</p>	1	54-A3/LX/6129
	<p>Small Aperture Sample Holder for low atomic number (Silicon on rubber)</p> <p>Optimised small aperture sample holder for silicone on rubber application ensures perfect sample presentation for consistent results.</p>	1	54-L235
	<p>Filter paper holder for XA695 sample tray</p> <p>Optimised paper sample stage ensures perfect sample presentation for consistent results. Fits into 47mm sample tray (XA695).</p>	1	54-Q65

Description	Qty	Reference
-------------	-----	-----------

Sample Preparation - General

	<p>Secondary Safety Window Assembly Tool</p> <p>Secondary safety window assembly tool to assemble and dismantle the new design secondary safety window.</p>	1	54-LX320
	<p>Window Assembly Jig for L242 Sample Cups</p> <p>Unique 2 piece sample cell assembly jig for quick and efficient sample cell preparation and dismantling of L242 sample cups.</p>	1	54-LX1054
	<p>Sample Holders – Sample Cell Rack</p> <p>Holds up to 10 L242 sample cells and prevents film contamination.</p>	1	54-LX1032
	<p>Sample Compression Tool</p> <p>Sample compression tool for the manual compression of powder samples in the L242 sample cup.</p>	1	54-QX9510
	<p>Special holder for micro samples – ED2000</p> <p>Dual tipped device that allows a sample up to 2mm in size, or samples from 2mm to 20mm to be easily presented for analysis. Samples need to be attached to the holder with cyan acrylate adhesive. Best suited for single sample analysis.</p>	1 Pack of 30	54-C6022/30
	<p>Stainless Steel Mixing Ball</p> <p>Stainless steel mixing ball to aid homogenous mixing of Oxford instruments sample preparation mixture and environmental sample.</p>	1	54-HW6400

	Description	Qty	Reference
	<p>Disposable Pipettes</p> <p>3ml disposable pipettes.</p>	1 Pack of 1000	54-HW6401
	<p>Mixing Bottles</p> <p>For samples preparation and storage</p>	1 Pack of 10	54-HW6404
	<p>SUS Desiccators'</p> <p>Desiccator to keep SUS's dry.</p>	1	54-HW6406
	<p>Tweezers (20cm length)</p>	1	54-HW6402
	<p>Oxford Sample Preparation Mixture</p> <p>Makes 300 samples, Al203, 5kg.</p>	5 kg	54-XA1241-1
	<p>J-LAR High Purity Tape (for ED2000)</p> <p>High purity tape to hold metal fragments in place during analysis.</p>	25 x 66mm roll	54-EX0009
	<p>PS10 Sample Cutter for paper and film</p> <p>For cutting out rapid and accurate circular round specimens. Produces 35mm diameter circles. Cutting depth 5mm. Handles siliconised films very easily (including PET, MOPP and HDPE). 100 replacement blades for the cutter can also be ordered when required</p>	1	54-LX6912-1
	<p>100 Replacement Blades for the PS10 Sample Cutter (including display mat)</p> <p>For use with the PS10 Sample Cutter (LX6912-1).</p>	1 Pack of 100 blades & 5 display mats	54-LX6913-1


Description	Qty	Reference
-------------	-----	-----------

Sample Preparation – Pressed Pellets




	<p>Briquetting Die</p> <p>Briquetting die, 31.5mm (1.25") diameter.</p>	<p>1</p>	<p>54-QX1014</p>
	<p>Evacuatable Sample Die</p> <p>Evacuatable sample die, 40mm (1.57") diameter.</p>	<p>1</p>	<p>54-QX1013</p>
	<p>Boric Acid Backing Die</p> <p>Boric acid backing die for QX1014.</p>	<p>1</p>	<p>54-B6057</p>
	<p>Pre-flared Aluminium Sample Cups – 31mm</p> <p>31mm pre-flared aluminium sample cups.</p>	<p>1 Box of 1000</p>	<p>54-EX0008</p>
	<p>Tapered Aluminium Cap – 35mm</p> <p>Tapered aluminium cap - 35mm diameter.</p>	<p>1 Box of 600</p>	<p>54-QX1001/600</p>
	<p>Tapered Aluminium Cap – 40mm</p> <p>Tapered aluminium cap – 40mm diameter.</p>	<p>1 Box of 600</p>	<p>54-QX1015/600</p>

Description	Qty	Reference
-------------	-----	-----------

Sample Preparation – Fusion Beads

	Grinding / Binding Pellets	1 kg	54-CM0039
	Grinding / binding pellets to aid the preparation of pressed samples.		

Sample Preparation – Sample Mills and Presses

	Glen-Creston Gyro Mill	1	54-LX5115
	Glen-Creston gyro mill for fine grinding of powders complete with 100ml tungsten carbide dish and adaptor. Operates from single phase power supply.		
	Manually Operated Hydraulic Press	1	54-LX5110
	Manually operated hydraulic press, 0-25 tons, provided with safety guards and adjustable pressure relief valve		
	Automatic Hydraulic Press	1	54-QX2500
	Automatic 0-40 tons hydraulic press set digitally.		







Description	Qty	Reference
-------------	-----	-----------









Sample Cell Films

	<p>Mylar 6 Micron Sample Film</p> <p>6 um thick polyester film. It is the most resistant window film available and withstands almost all chemicals and solvents. It is used, for example, in the analysis of lead in leaded and unleaded gasoline.</p>	<p>100m x 75mm roll</p>	<p>54-L70</p>
	<p>High Purity Hostaphan 3.5 Micron Sample Film</p> <p>3.5 um thick high purity polyester film is mostly used for the analysis of low ppm levels in fuels.</p>	<p>100m x 75mm roll</p>	<p>54-L72</p>
	<p>'Poly 4' Sample Film</p> <p>Pure and chemically resistant polypropylene film. It is 4 um thick and is used for most types of analysis. This is the film of choice for standardless analysis and is also used for the analysis of loose powders, lubricating oils and industrial waste by ASTM D6052.</p>	<p>100m x 75mm roll</p>	<p>54-L73</p>
	<p>'Poly S' 3.8 Micron Sample Film</p> <p>'Poly S' (polyester) sample film is a high purity sample film dedicated to the analysis of low sulphur levels in road fuels. It is very pure and consistently ensures the extremely low and constant background that is essential when working at low sulphur levels (ppm).</p>	<p>100m x 75mm roll</p>	<p>54-L74</p>
	<p>"Poly C" Sample Film - New</p> <p>5 um thick high purity polycarbonate film is used exclusively for the analysis of ultra low ppm sulphur in fuels.</p>	<p>100m x 75mm roll</p>	<p>54-L76</p>
	<p>Ultralene Film 1.5 Micron</p>	<p>90m roll</p>	<p>54-EX0016</p>


Description	Qty	Reference
-------------	-----	-----------

Standards





	<p>S in mineral oil standards</p> <p>10 standards for instrument calibration 0-5%, wt% of S in mineral oil.</p>	10 x 100ml	54-CS0001
	<p>S in diesel fuel standards</p> <p>7 standards for instrument calibration 0-0.1%, wt% of S in diesel fuel.</p>	7 x 100ml	54-CS0002
	<p>S and Cl in mineral oil</p> <p>10 standards for instrument calibration 0-1%, wt% of S and Cl in mineral oil.</p>	10 x 100ml	54-CS0003
	<p>P, S, Ca and Zn in lube oil</p> <p>17 standards for instrument calibration of P, S, Ca and Zn in lube oil.</p>	17 x 100ml	54-CS0004
	<p>S, Ni and V in mineral oil</p> <p>12 standards for instrument calibration of S, Ni and V in mineral oil.</p>	12 x 100ml	54-CS0005
	<p>S in mineral oil</p> <p>10 standards for instrument calibration 0-0.1%, wt% of S in mineral oil.</p>	10 x 100ml	54-CS0008

	Description	Qty	Reference
	<p>S, Ni and V in residual fuel oil</p> <p>12 standards for instrument calibration of S, Ni and V in residual fuel oil.</p>	12 x 100ml	54-CS0009
	<p>Lubricating oil calibration standards</p>	100 ml	54-CS0014
	<p>Add/wear metals calibration set</p> <p>23 standards for instrument calibration of Mg, P, S, Cl, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Mo, Sn, Pb Additive elements and wear metals in lubricating oils</p>	100 ml	54-CS0018
	<p>S in mineral oil</p> <p>8 standards for use with the Twin-X ULS (TXP-15), 0-150 ppm.</p>	8 x 100ml	54-CS0019
	<p>Heavy mineral oil</p> <p>Heavy mineral oil standard.</p>	1 litre	54-CM0014
	<p>Zirconium Internal Standard Solution</p> <p>Standard for ISO 14596 Method 18% Zirconiumoctoate</p>	2,5 litres	54-CM0021
	<p>Certified Di-Butyl standard</p> <p>High sulphur content standard for dilution to produce a range of sulphur calibration standards.</p>	50 ml	54-CM0022
	<p>Light mineral oil (low S concentration 0.1 mg/kg)</p> <p>Light mineral oil with low S concentration for low sulphur measurement (formally known as low viscosity mineral oil). For use withTwin-X ULS or MD17P</p>	1 litre	54-CM0038

Description	Qty	Reference
-------------	-----	-----------





	<p>Setting Up Samples (SUS's)</p> <p>For a full list of Setting Up Samples (SUS's), please go to page 19.</p>	<p>1</p>	<p>54-SUxxx</p>
--	---	----------	------------------------

Printer Consumables

	<p>Lab-X Printer Cartridge</p> <p>Cartridge suitable for printers with Lab-X models with serial numbers greater than XRF Lab-X 30001990 shipped after March 1997. Please make a visual check with image here to make sure you are ordering the correct replacement. Note that this cartridge is not suitable for ribbon only printers.</p>	<p>1</p>	<p>54-LX5105</p>
	<p>Lab-X Printer Ribbon</p> <p>Ribbon suitable for instruments shipped before March 1997. Please make a visual check with the image here to make sure you are ordering the correct replacement. Note that this ribbon is not suitable for cartridge only printers.</p>	<p>1</p>	<p>54-LX5101</p>
	<p>Lab-X Printer Paper Roll</p> <p>Lab-X printer paper roll for Lab-X 1000 and 3000</p>	<p>1</p>	<p>54-LX5102</p>
	<p>Lab-X Thermal Printer Paper Roll</p> <p>Lab-X printer paper roll for Lab-X 3500 thermal printer</p>	<p>1</p>	<p>54-CP1057</p>

Description	Qty	Reference
-------------	-----	-----------

X-ray Bulbs

	<p>X-ray Warning Lamp Bulbs (Lab-X) X-ray warning lamp bulb for the Lab-X 3000 / 3500.</p>	1	54-LA1044
	<p>X-ray Warning Lamp Bulbs (ED2000) X-ray warning lamp bulbs for the ED2000.</p>	1 Pack of 5	54-LA1034-5
	<p>X-ray Warning Lamp Bulbs (MDX) X-ray warning lamp bulbs for the MDX.</p>	1 Pack of 5	54-LA1049-5
	<p>X-ray Warning Lamp Bulbs (QX) X-ray warning lamp bulbs for the QX.</p>	1 Pack of 5	54-LA1029-5




Description	Qty	Reference
-------------	-----	-----------

'O' Rings


	'O' rings for L242 sample cups	1 Pack of 100	54-OR1007/100
	Viton 'O' ring for L242 sample cups High purity 'O' ring for L242 sample cups.	1 Pack of 100	54-OR1010/100
	'O' ring for chamber lid 'O' ring for ED2000 chamber lid.	1	54-OR4025
	'O' ring BS4518 'O' ring For QX and MDX systems	1	54-OR1124
	'O' ring for secondary window – ED2000 'O' ring for ED2000 secondary window.	1	54-OR4064
	Vacuum Grease Sample preparation – Vacuum grease for very light lubrication of the L242 'O' ring.	1 tube of 50g	54-PR1023

Description	Qty	Reference
-------------	-----	-----------


Accessories

	<p>Lab-X Uninterruptible Power Supply (UPS) – 220V</p> <p>For Lab-X / Twin-X</p>	<p>1</p>	<p>54-PS1016</p>
	<p>Fan air filter pack</p> <p>Air filters for cooling fan system on ED2000.</p>	<p>1</p>	<p>54-HW5061</p>
	<p>Vacuum Pump Oil</p> <p>Vacuum pump oil for MDX.</p>	<p>1 litre</p>	<p>54-VC1024</p>


Mini Consumables Package for 500 Analysis on Lab-X 3500

5	CK-100 Consumables Kit containing 100 disposable inners and 100 lids, for use with L242 sample cups.	54-CK-100	 <p>P/N : 54-CKP500-4</p>
1	<i>Customer to specify either :</i> Mylar 6 Micron Sample Film Polycarbonate 5 Micron Sample Film High Purity Hostaphan 3.5 Micron Sample Film	54-L70 54-L76 54-L72	
2	Paper Roll for Thermal Printer	54-CP1057	


Mini Consumables Package for 1000 Analysis on Lab-X 3500

10	CK-100 Consumables Kit containing 100 disposable inners and 100 lids, for use with L242 sample cups.	54-CK-100	 <p>P/N : 54-CKP1000-4</p>
2	<i>Customer to specify either :</i> Mylar 6 Micron Sample Film Polycarbonate 5 Micron Sample Film High Purity Hostaphan 3.5 Micron Sample Film	54-L70 54-L76 54-L72	
4	Paper Roll for Thermal Printer	54-CP1057	


Maxi Consumables & Spares Package for 2000 Analysis on Lab-X 3500

20	CK-100 Consumables Kit containing 100 disposable inners and 100 lids, for use with L242 sample cups.	54-CK-100	 <p>P/N : 54-CKP2000-4</p>
4	<i>Customer to specify either :</i> Mylar 6 Micron Sample Film Polycarbonate 5 Micron Sample Film High Purity Hostaphan 3.5 Micron Sample Film	54-L70 54-L76 54-L72	
8	Paper Roll for Thermal Printer	54-CP1057	
1	L242 Sample Cups (Box of 10)	54-L242	
1	Sample Cell Rack	54-LX1032	
1	Window Assembly Jig for L242 Sample Cups	54-LX1054	
1	Secondary Safety Window	54-LX6879-2	
2	Secondary Safety Window Assembly Tool	54-LX320	
1	'O' Ring for L242 Sample Cups (Pack of 100)	54-OR1007	
1	Vacuum Grease – 50g tube	54-PR1023	
3	X-ray Warning Lamp Bulbs	54-LA1044	
1	1 A A/S Fuse	54-FU1000	
1	1 Amp A/S Fuse	54-FU1004	
1	5 A A/S Fuse	54-FU1033	


Mini Consumables Package for 500 Analysis on Lab-X 3000

5	CK-100 Consumables Kit containing 100 disposable inners and 100 lids, for use with L242 sample cups.	54-CK-100	 <p>P/N : 54-CKP500-3</p>
1	<i>Customer to specify either :</i> Mylar 6 Micron Sample Film Polycarbonate 5 Micron Sample Film High Purity Hostaphan 3.5 Micron Sample Film	54-L70 54-L76 54-L72	
2	Ink Ribbon for DP-575-LGX	54-LX5105	
2	LX1000/3000 Printer Paper Roll	54-LX5102	

Midi Consumables Package for 1000 Analysis on Lab-X 3000

10	CK-100 Consumables Kit containing 100 disposable inners and 100 lids, for use with L242 sample cups.	54-CK-100	 <p>P/N : 54-CKP1000-3</p>
2	<i>Customer to specify either :</i> Mylar 6 Micron Sample Film Polycarbonate 5 Micron Sample Film High Purity Hostaphan 3.5 Micron Sample Film	54-L70 54-L76 54-L72	
4	Ink Ribbon for DP-575-LGX	54-LX5105	
4	LX1000/3000 Printer Paper Roll	54-LX5102	

Maxi Consumables & Spares Package for 2000 Analysis on Lab-X 3000

20	CK-100 Consumables Kit containing 100 disposable inners and 100 lids, for use with L242 sample cups.	54-CK-100	 <p>P/N : CKP2000-3</p>
4	<i>Customer to specify either :</i> Mylar 6 Micron Sample Film Polycarbonate 5 Micron Sample Film High Purity Hostaphan 3.5 Micron Sample Film	54-L70 54-L76 54-L72	
8	Ink Ribbon for DP-575-LGX	54-LX5105	
8	LX1000/3000 Printer Paper Roll	54-LX5102	
8	L242 Sample Cups (Box of 10)	54-L242	
1	Sample Cell Rack	54-LX1032	
1	Window Assembly Jig for L242 Sample Cups	54-LX1054	
1	Secondary Safety Window	54-LX6879-2	
2	Secondary Safety Window Assembly Tool	54-LX320	
2	'O' Ring for L242 Sample Cups (Pack of 100)	54-OR1007	
1	Vacuum Grease – 50g tube	54-PR1023	
1	X-ray Warning Lamp Bulbs	54-LA1044	
3	1 A A/S Fuse	54-FU1000	
1	1 Amp A/S Fuse	54-FU1004	
1	5 A A/S Fuse	54-FU1033	

SETTING UP SAMPLES LIST

Setting Up Samples (SUS's)			
Single Elements			
Aluminium (Al)			
SUAL15B	100B	Al	8.82
SUAL95D	Sapphire	Al	52.92
Antimony (Sb)			
SUSB05B	100B	Sb	0.70
SUSB10B	100B	Sb	1.39
Barium (Ba)			
SUBA05B	100B	Ba	2.99
SUBA99D	Crystal	Ba	78.33
Bismuth (Bi)			
SUBI05B	100B	Bi	0.86
SUBI10B	100B	Bi	0.29
Bromine (Br)			
SUBR10R	Resin	Br	0.25
SUBR15R	Resin	Br	2.19
Cadmium (Cd)			
SUCD05B	100B	Cd	0.29
SUCD99D	Metal	Cd	100.00
Calcium (Ca)			
SUCA20B	100B	Ca	1.49
SUCA40B	100	Ca	10.72
SUCA50B	100	Ca	17.87
Cerium (Ce)			
SUCE05B	100B	Ce	2.71
SUCE10B	100	Ce	6.26
Chlorine (Cl)			
SUCL05B	100B	Cl	0.33
SUCL20B	100B	Cl	1.67
SUCL30D	Polyureth	Cl	5.00
SUCL50B	100B	Cl	6.67
SUCL99D	uPVC	Cl	55.00
Cobalt (Co)			
SUCO10B	100B	Co	0.26
Copper (Cu)			
SUCU70R	Resin	Cu	2.21
SUCU99D	Metal	Cu	100.00
Gallium (Ga)			
SUGA05B	100B	Ga	3.72
SUGA10B	100B	Ga	0.43
Gold (Au)			
SUAU05B	100B	Au	0.08
Iron (Fe)			
SUFE10B	100	Fe	10.49
SUFE15R	Resin	Fe	30.86
Magnesium (Mg)			
SUMG99D	Crystal	Mg	56.13
Manganese (Mn)			
SUMN05B	100B	Mn	0.53
SUMN20R	Resin	Mn	5.80
Molybdenum (Mo)			
SUMO05B	100B	Mo	0.22
SUMO10B	100B	Mo	2.22
SUMO99D	Metal	Mo	100.00
Nickel (Ni)			
SUNI05B	100B	Ni	0.33
Niobium (Nb)			
SUNB99D	Metal	Nb	100.00
Palladium (Pd)			
SUPD99D	Foil	Pd	99.00
Phosphorus (P)			
SU-P05B	100B	P	1.09
SU-P50B	100B	P	2.91

Potassium (K)			
SU-K50B	100B	K	1.73
Rubidium (Rb)			
SURB05B	100B	Rb	0.43
Silicon (Si)			
SUSI05B	100B	Si	6.23
SUSI10B	100B	Si	1.56
SUSI15B	100B	Si	7.79
SUSI20B	100B	Si	3.90
SUSI25B	100B	Si	0.57
SUSI30B	100B	Si	3.59
SUSI35R	Resin	Si	20.75
SUSI40R	Resin	Si	34.48
SUSI99D	Crystal	Si	46.75
Silver (Ag)			
SUAGO5D	Metal	Ag	100.00
SUAG10B	100B	Ag	0.31
Sodium (Na)			
SUNA05B	100	Na	6.18
Strantium (Sr)			
SUSR99D	Crystal	Sr	69.75
Sulphur (S)			
SU-S05B	100B	S	0.11
SU-S10B	100B	S	0.17
SU-S15B	100B	S	0.43
SU-S20B	100B	S	0.91
SU-S25B	100B	S	1.71
SU-S30B	100B	S	2.19
SU-S35B	100B	S	3.01
SU-S40D	PES	S	13.80
SU-S42B	100B	S	3.31
SU-S45B	100B	S	4.06
SU-S50B	100B	S	4.81
SU-S55B	100B	S	5.57
SU-S60B	100B	S	5.85
SUGS05B	100B	S	0.23
SUGS10B	100B	S	0.31
SUGS15B	100B	S	0.38
SUGS20B	100B	S	0.45
SUGS25B	100B	S	0.53
SUGS30B	100B	S	0.60
Thallium (Tl)			
SUTL05B	100B	Tl	3.72
Tin (Sn)			
SUSN10B	100B	Sn	0.79
Titanium (Ti)			
SUTI05B	100B	Ti	0.50
SUTI20B	100B	Ti	3.00
Vanadium (V)			
SU-V05B	100B	V	0.47
Yttrium (Y)			
SU-Y01B	100B	Y	1.31
SU-Y02B	100B	Y	0.26
Zinc (Zn)			
SUNA15B	Metal	Zn	100.00
SUZN05B	100	Zn	10.71
Zirconium (Zr)			
SUZR05B	100B	Zr	6.17

Setting Up Samples (SUS's)					
Mixtures (2 Elements)					
Uranium (U) and Silicon (Si)					
SU-U05B	100B	U	4.54	Si	5.45
SU-U10B	100B	U	0.85	Si	7.35
SU-U15B	100B	U	0.15	Si	7.71
Arsenic (As) and Silicon (Si)					
SUAS05B	100B	As	1.89	Si	6.62
SUAS50B	100B	As	0.63	Si	7.40
Calcium (Ca) and Fluorine (F)					
SUCA99D	Crystal	Ca	51.33	F	48.67
Cadmium (Cd) and Silicon (Si)					
SUCD10B	100B	Cd	2.92	Si	6.23
Calcium (Ca) and Magnesium (Mg)					
SUCM04B	100	Ca	32.59	Mg	1.44
Chromium (Cr) and Silicon (Si)					
SUCR50B	100B	Cr	1.37	Si	6.86
Copper (Cu) and Silicon (Si)					
SUCU50B	100B	Cu	0.67	Si	7.40
Iron (Fe) and Silicon (Si)					
SUFE01B	100B	Fe	0.14	Si	7.70
SUFE05B	100B	Fe	1.17	Si	7.01
Lead (Pb) and Copper (Cu)					
SUMI11B	100B	Pb	6.19	Cu	1.33
Yttrium (Y) and Lanthanum (La)					
SUMI14B	100B	Y	6.56	La	1.42
Phosphorus (P) and Tin (Sn)					
SUMI30B	100B	P	1.45	Sn	0.26
Iron (Fe) and Potassium (K)					
SUMI31B	100B	Fe	1.05	K	2.49
Iron (Fe) and Calcium (Ca)					
SUMI34B	100B	Fe	1.17	Ca	2.14
Zinc (Zn) and Calcium (Ca)					
SUMI40B	100B	Zn	3.35	Ca	7.15
Sulphur (S) and Phosphorus (P)					
SUMI45B	100B	S	0.33	P	0.36
Copper (Cu) and Iron (Fe)					
SUMI48D	Foil layers	Cu	99.00	Fe	1.00
Copper (Cu) and Cobalt (Co)					
SUMI49D	Foil layers	Cu	99.00	Co	1.00
Aluminium (Al) and Silicon (Si)					
SUMI52B	100B	Al	2.47	Si	5.61
Silicon (Si) and Manganese (Mn)					
SUMI54R	Resin	Si	25.22	Mn	8.67
Niobium (Nb) and Tin (Sn)					
SUMI59R	Resin	Nb	10.28	Sn	25.92
Lead (Pb) and Silicon (Si)					
SUPB05B	100B	Pb	0.04	Si	7.77
SUPB10B	100B	Pb	0.06	Si	7.76
SUPB15B	100B	Pb	0.11	Si	7.73
SUPB20B	100B	Pb	0.22	Si	7.68
SUPB25B	100B	Pb	0.31	Si	7.64
SUPB30B	100B	Pb	0.42	Si	7.58
SUPB50B	100B	Pb	7.43	Si	4.05
Tin (Sn) and Silicon (Si)					
SUSN50B	100B	Sn	5.25	Si	4.67
Strontium (Sr) and Iron (Fe)					
SUSS05B	100	Sr	29.60	Fe	0.28
Thorium (Th) and Silicon (Si)					
SUTH05B	100B	Th	4.53	Si	5.45
SUTH10B	100B	Th	0.76	Si	7.40
Zirconium (Zr) and Magnesium (Mg)					
SUZR10B	Zirconia	Zr	73.29	Mg	0.60

Setting Up Samples (SUS's)							
Mixtures (3 Elements)							
Sodium (Na), Aluminium (Al) and Magnesium (Mg)							
SUGL05D	Glass	Na	8.90	Al	21.17	Mg	12.66
Potassium (K), Magnesium (Mg) & Aluminium (Al)							
SUMI01B	100B	K	1.38	Mg	4.02	Al	4.41
Titanium (Ti), Iron (Fe) & Calcium (Ca)							
SUMI02B	100B	Ti	5.00	Fe	1.05	Ca	0.48
Titanium (Ti), Iron (Fe) & Chromium (Cr)							
SUMI03B	100B	Ti	0.10	Fe	1.87	Cr	0.23
Zirconium (Zr), Iron (Fe) & Silicon (Si)							
SUMI06B	100B	Zr	0.99	Fe	0.29	Si	1.25
Hafnium (Hf), Magnesium (Mg) & Silicon (Si)							
SUMI09B	100B	Hf	0.85	Mg	2.51	Si	0.47
Iron (Fe), Copper (Cu) & Lead (Pb)							
SUMI12B	100B	Fe	0.23	Cu	0.67	Pb	3.87
Silicon (Si), Magnesium (Mg) & Aluminium (Al)							
SUMI22B	100B	Si	0.78	Mg	2.51	Al	0.44
Copper (Cu), Arsenic (As) & Chromium (Cr)							
SUMI28B	100B	Cu	0.67	As	0.63	Cr	1.37
Copper (Cu), Sodium (Na) & Chlorine (Cl)							
SUMI32B	100B	Cu	0.67	Na	0.55	Cl	0.85
Sulphur (S), Chlorine (Cl) & Magnesium (Mg)							
SUMI35B	100B	S	1.00	Cl	0.83	Mg	3.02
Chromium (Cr), Manganese (Mn) & Nickel (Ni)							
SUMI39B	100B	Cr	0.91	Mn	3.23	Ni	1.05
Vanadium (V), Nickel (Ni) & Lead (Pb)							
SUMI42B	100B	V	0.19	Ni	0.05	Pb	0.08
Strontium (Sr), Thorium (Th) & Silicon (Si)							
SUMI43B	100B	Sr	0.07	Th	0.15	Si	7.67
Aluminium (Al), Potassium (K) & Titanium (Ti)							
SUMI44B	100B	Al	3.53	K	0.69	Ti	0.25
Aluminium (Al), Calcium (Ca) & Titanium (Ti)							
SUMI46B	100B	Al	3.53	Ca	0.60	Ti	0.25
Titanium (Ti), Manganese (Mn) & Silicon (Si)							
SUMI50B	100B	Ti	1.50	Mn	1.58	Si	5.45
Chromium (Cr), Copper (Cu) & Arsenic (As)							
SUMI58R	Resin	Cr	2.82	Cu	1.60	As	2.17
Sulphur (S), Phosphorus (P) & Iron (Fe)							
SUMI87B	100B	S	0.93	P	0.07	Fe	0.06
SUMI88B	100B	S	0.47	P	0.04	Fe	0.03
Iron (Fe), Aluminium (Al) & Calcium (Ca)							
SUMI89B	100B	Fe	0.82	Al	1.23	Ca	0.18

Setting Up Samples (SUS's)									
Mixtures (4 Elements)									
SUCM03B	100	Si	9.95	Al	2.41	Fe	3.19	Ca	16.79
SUMI04B	100B	Ti	0.50	Fe	0.12	Ca	0.24	Al	0.53
SUMI07B	100B	Na	2.47	Ti	0.10	Sb	0.56	Si	0.23
SUMI08B	100B	Na	4.95	Ti	0.30	Sb	1.11	Si	0.62
SUMI10B	100B	Ca	0.60	Ba	0.75	Zn	0.67	Pb	0.31
SUMI13B	100B	Zn	0.54	Sn	0.79	Cd	2.19	Si	5.84
SUMI16B	100B	Al	0.26	Ca	0.36	Si	0.23	Zn	0.40
SUMI17B	100B	Ti	4.00	Fe	1.75	Si	1.95	Al	0.88
SUMI18B	100B	Ti	1.50	Fe	3.50	Si	0.78	Cr	0.23
SUMI19B	100B	Al	2.65	Mg	3.02	V	0.19	Ca	0.36
SUMI21B	100B	Ni	0.65	W	0.66	Zn	0.27	Si	6.86
SUMI24B	100B	Cr	1.67	As	1.00	Cd	1.00	Pb	3.00
SUMI25B	100B	Al	4.85	Ca	1.79	Fe	1.75	Ti	1.50
SUMI33B	100B	Ti	0.30	Fe	2.10	Sr	1.69	Si	5.22
SUMI37B	100B	Fe	5.83	Mn	0.13	Mg	0.50	S	0.33
SUMI47B	100B	Ca	0.51	Ti	0.43	Fe	0.50	Si	6.79
SUMI51B	100B	Ca	0.60	K	1.38	Na	0.33	Cl	0.51
SUMI55B	100B	As	0.63	Zn	0.27	Pb	0.93	Sb	0.28
SUMI61R	Resin	Ti	5.07	Fe	17.87	Ta	0.69	W	0.67

SUMI65B	100B	Ca	3.57	Fe	1.75	As	1.26	Si	3.51
SUMI85B	100B	Ca	4.76	Zn	1.07	P	0.73	Si	3.27
SUMI91B	100B	Bi	0.67	Na	0.66	Cl	1.01	S	1.67
SUMI93B	100B	Si	4.91	S	0.20	Al	0.79	Mn	1.58

Setting Up Samples (SUS's)

Mixtures (5 Elements)

SUMI20B	100B	Pb	0.31	Ba	0.30	Ni	0.26	V	0.19	Zn	0.27
SUMI29B	100B	Pb	0.31	Fe	0.23	K	0.42	Al	0.53	Si	0.47
SUMI38B	Inconel	Cr	20.00	Ni	52.00	Fe	18.00	Mo	3.50	Nb	5.00
SUMI41B	100B	Sb	1.39	Ti	1.00	Fe	1.17	P	0.73	Co	1.22
SUMI60B	100B	Ca	1.79	Fe	4.08	Cu	0.27	S	1.67	Si	1.79
SUMI70B	100B	Zn	1.07	Pb	1.86	Sb	0.70	S	3.34	Si	1.95
SUMI75B	100B	Na	0.98	Cl	1.52	Ca	0.60	P	1.45	Si	4.67
SUMI80B	100B	Cu	0.67	Mn	1.05	Fe	0.93	Zn	0.67	Si	5.61
SUMI86B	100B	Ca	0.60	Pb	0.31	Ti	0.50	P	1.09	S	1.33
SUMI90B	100B	Al	1.76	K	0.42	Ca	0.36	Ti	0.15	Fe	0.17
SUMI92B	100B	Fe	2.91	Si	0.55	S	0.93	Ca	2.38	P	1.09
SUMI94B	100	P	5.09	Fe	0.23	Mg	0.70	Mn	0.21	Si	1.48

Setting Up Samples (SUS's)

Mixtures (6 Elements)

SUGL10D	Glass	Na	4.60	Mg	1.57	Al	2.12	Si	23.84	K	7.22	Ca	2.72
SUGL15D	Glass	Na	8.90	Si	33.19	K	4.15	Ca	5.00	Ba	1.34	Mg	0.60
SUGL20B	Glass	Na	14.84	Mg	6.03	Al	5.29	Si	23.37	K	4.15	Ca	3.57
SUMI36B	100B	Si	0.78	Fe	3.50	Ca	0.36	Al	0.26	Ti	0.40	P	0.36
SUMI96B	100B	K	0.07	Ca	0.02	Fe	0.12	Si	0.12	Mg	0.80	Al	5.29

Setting Up Samples (SUS's)

Mixtures (7 Elements)

SUCM02B	100	Si	0.37	Al	0.42	Fe	0.28	Ca	32.59	Mg	1.44	Na	0.13	S	0.09
SUMI23B	100B	Cr	0.23	Ti	0.30	P	0.36	S	0.33	Na	0.33	Cl	0.51	Si	6.23
SUMI27B	100B	Si	0.47	Na	0.39	Cl	0.61	Al	0.53	Ti	0.30	Zr	0.37	V	0.28
SUMI95B	100B	Cu	0.13	Mg	0.30	Ca	1.43	Zn	0.07	Fe	0.06	K	2.49	Si	5.06

Setting Up Samples (SUS's)

Mixtures (9 Elements)

SUCM01B	100	Si	9.95	Al	2.41	Fe	3.19	Ca	16.79	Mg	0.23	Na	1.23	S	0.86	K	1.20	Cl	1.08
SUGL50B	Glass	Na	11.00	Mg	3.00	Si	31.40	Ca	3.60	V	1.10	Fe	0.70	Zn	0.60	Mo	1.30	Pb	1.80

Standards' Concentrations

CS0001 : High Level Sulphur in Mineral Oil

10 Standards – 100 ml each

Standard #	S (Wt.%)
1	0,00
2	0,20
3	0,50
4	0,75
5	1,00
6	1,50
7	2,00
8	3,00
9	4,00
10	5,00

CS0002 : Sulphur in Diesel Standards

7 Standards – 100 ml each

Standard #	S (Wt.%)
1	0,00
2	0,02
3	0,04
4	0,05
5	0,06
6	0,08
7	0,10

CS0003 : Cl and S in Mineral Oil

10 Standards – 100 ml each

Standard #	S (Wt.%)	Cl (Wt.%)
1	0,0	0,0
2	0,1	0,8
3	0,6	0,5
4	0,2	0,3
5	0,7	0,2
6	0,3	0,6
7	0,4	0,1
8	0,5	0,4
9	0,8	1,0
10	1,0	0,0

CS0004 : Lubricating Oil Standards
17 Standards – 100 ml each

Standard #	Ca (Wt.%)	P (Wt.%)	S (Wt.%)	Zn (Wt.%)
1	0,005	0,005	0,05	0,050
2	0,600	0,000	0,00	0,000
3	0,000	0,300	0,00	0,000
4	1,000	0,000	1,00	0,000
5	0,000	0,000	0,00	0,300
6	0,005	0,250	0,80	0,300
7	0,500	0,150	0,50	0,150
8	0,010	0,200	0,10	0,250
9	0,050	0,010	0,40	0,075
10	0,100	0,150	0,20	0,200
11	0,200	0,200	0,80	0,100
12	0,400	0,005	0,80	0,300
13	0,600	0,100	0,50	0,050
14	0,800	0,010	0,05	0,100
15	1,000	0,300	1,00	0,150
16	0,400	0,050	0,60	0,250
17	0,000	0,000	0,00	0,000

CS0005 : Sulphur and Metals in Mineral Oil Standards
12 Standards – 100 ml each

Standard #	S (Wt.%)	Ni (ppm)	V (ppm)
1	0,0	0	0
2	0,5	10	500
3	1,0	100	25
4	1,5	80	250
5	2,0	40	100
6	2,5	5	400
7	3,0	60	300
8	3,5	0	200
9	4,0	100	0
10	4,5	50	250
11	5,0	20	500
12	5,5	100	50

CS0008 : Low level Sulphur in Mineral Oil
10 Standards – 100 ml each

Standard #	S (Wt.%)
1	0,0000
2	0,0025
3	0,0050
4	0,0100
5	0,0200
6	0,0400
7	0,0500
8	0,0600
9	0,0800
10	0,1000

CS0009 : Sulphur and Metals in Residual Fuel Oil

12 Standards – 100 ml each

Standard #	S (Wt.%)	Fe (ppm)	N (ppm)	V (ppm)
1	0,1850	13	4	1
2	0,5000	500	300	10
3	1,0000	25	500	100
4	0,0000	250	100	80
5	2,0000	100	200	40
6	2,5000	400	400	5
7	3,0000	300	0	60
8	3,5000	200	500	0
9	0,0000	0	100	100
10	4,5000	250	300	50
11	5,0000	500	200	20
12	5,5000	50	50	100

CS0018 : Wear Metals in Lube Oil Standards

23 Standards – 50 ml each

Std #	Al (Wt %)	Ca (Wt %)	Cl (Wt %)	Co (Wt %)	Cr (Wt %)	Cu (Wt %)	Fe (Wt %)	Mg (Wt %)	Mn (Wt %)	Mo (Wt %)	Ni (Wt %)	P (Wt %)	Pb (Wt %)	S (Wt %)	Sn (Wt %)	Ti (Wt %)	V (Wt %)	Zn (Wt %)
1	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2	0,000	0,300	0,103	0,010	0,000	0,040	0,000	0,100	0,002	0,000	0,004	0,100	0,040	0,051	0,010	0,000	0,000	0,194
3	0,002	0,010	0,303	0,040	0,004	0,000	0,000	0,350	0,000	0,040	0,000	0,101	0,004	0,104	0,000	0,042	0,000	0,387
4	0,000	0,405	0,406	0,000	0,000	0,030	0,000	0,050	0,000	0,041	0,002	0,300	0,000	0,204	0,040	0,000	0,002	0,000
5	0,000	0,101	0,011	0,020	0,000	0,000	0,020	0,300	0,040	0,000	0,000	0,051	0,031	0,402	0,000	0,004	0,038	0,097
6	0,004	0,151	0,005	0,000	0,030	0,020	0,004	0,100	0,010	0,000	0,021	0,352	0,000	0,502	0,000	0,032	0,000	0,340
7	0,000	0,000	0,201	0,002	0,000	0,000	0,020	0,250	0,020	0,020	0,000	0,000	0,000	0,609	0,002	0,000	0,028	0,290
8	0,010	0,200	0,000	0,004	0,010	0,010	0,000	0,300	0,000	0,010	0,004	0,010	0,002	0,801	0,000	0,020	0,000	0,241
9	0,000	0,000	0,153	0,040	0,000	0,004	0,000	0,201	0,020	0,004	0,000	0,200	0,000	1,000	0,004	0,000	0,010	0,048
10	0,000	0,250	0,100	0,000	0,002	0,002	0,010	0,000	0,000	0,000	0,010	0,201	0,004	0,801	0,000	0,040	0,000	0,010
11	0,020	0,000	0,366	0,000	0,000	0,004	0,040	0,150	0,000	0,000	0,040	0,000	0,010	0,701	0,040	0,010	0,020	0,048
12	0,004	0,300	0,203	0,004	0,020	0,040	0,030	0,000	0,000	0,002	0,000	0,151	0,000	0,000	0,020	0,000	0,040	0,100
13	0,030	0,050	0,250	0,000	0,040	0,000	0,002	0,000	0,000	0,043	0,000	0,000	0,000	0,302	0,030	0,000	0,040	0,290
14	0,040	0,000	0,104	0,020	0,041	0,000	0,002	0,000	0,000	0,040	0,031	0,250	0,040	0,000	0,004	0,004	0,004	0,000
15	0,020	0,200	0,306	0,000	0,004	0,020	0,004	0,050	0,004	0,000	0,000	0,400	0,000	0,100	0,020	0,040	0,000	0,150
16	0,040	0,050	0,055	0,030	0,000	0,000	0,000	0,000	0,030	0,020	0,020	0,301	0,021	0,502	0,000	0,002	0,020	0,000
17	0,000	0,100	0,001	0,000	0,020	0,000	0,040	0,010	0,004	0,000	0,040	0,051	0,020	0,501	0,000	0,000	0,004	0,200

CS0019 : Sulphur in Mineral Oil

8 Standards – 100 ml each

Standard #	S (mg/kg)
1	0,0
2	5,0
3	10,0
4	30,0
5	50,0
6	70,0
7	100,0
8	150,0

These standards are stable for at least one year unopened, or six months from the date that they are opened. Immediately after use, they should be recapped and stored at ambient temperature (10-27°C / 50-80°F)

Tel: +33 1 69 85 25 29 – Fax: +33 1 69 41 86 80

Email: XRF.Consumables@oxinst.com