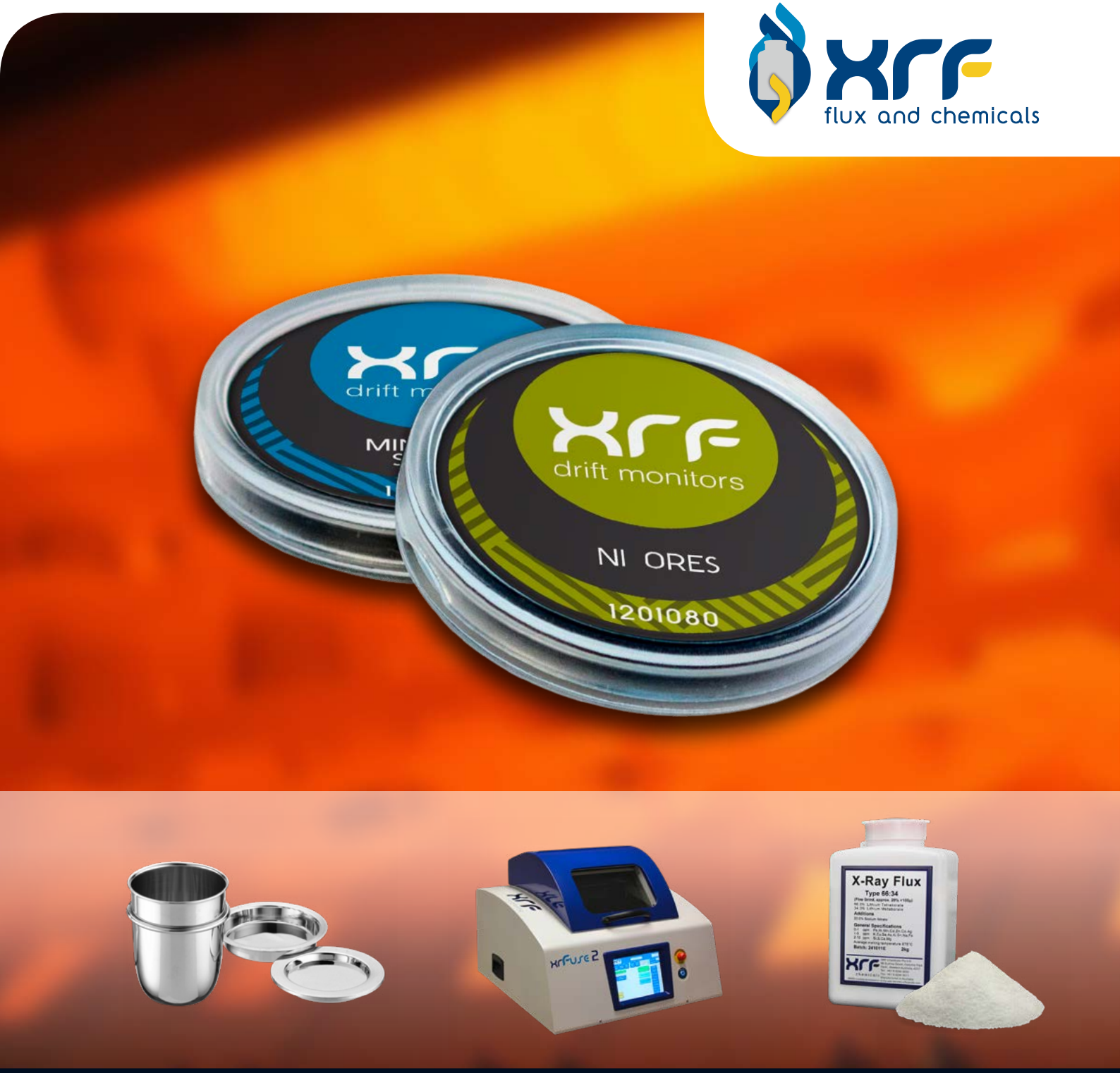
xrf
flux and chemicals



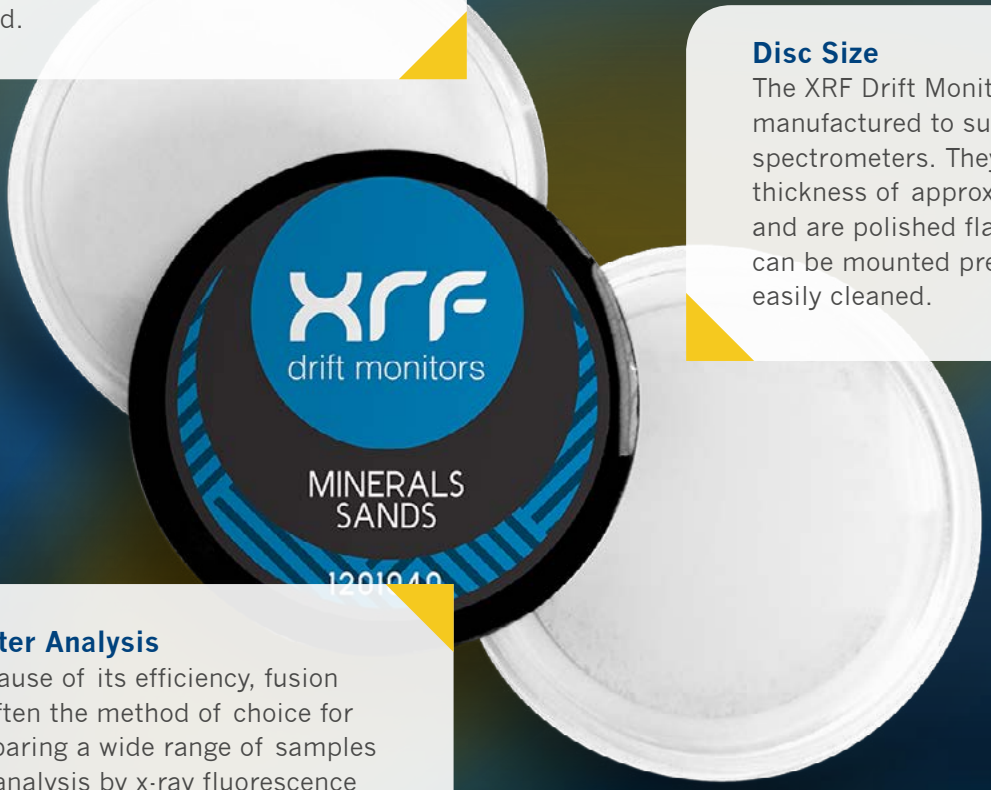
UNIQUE PRODUCTS FROM ONE SOURCE

XRF DRIFT MONITORS
DATA CALIBRATION MATERIAL

KEY FEATURES

Monitor Composition

The monitors are manufactured as stable fortified glass discs that are used to correct for day to day drift in the x-ray output. It is intensities that matter.
These are not intended as primary standards but are normally used for XRF calibration drift. Each type of monitor has element compositions that are appropriate for the mineral type. Trace element intensities are adjusted to be well above background.



Disc Size

The XRF Drift Monitor discs are manufactured to suit all XRF spectrometers. They have a thickness of approximately 4mm and are polished flat so that they can be mounted precisely and are easily cleaned.

Better Analysis

Because of its efficiency, fusion is often the method of choice for preparing a wide range of samples for analysis by x-ray fluorescence (XRF).
To maintain accurate and consistent results, it is prudent to use Drift Monitors for correction of ageing x-ray tubes and sample preparation variances.

Background

Based upon years of experience Dr Keith Norrish developed Coltide drift correction monitors to ensure ongoing data collected via XRF spectrographic sources was correlated and relative to the sample composition and source.

Dr Norrish has spent his career with Australian CSIRO developing innovative equipment and methods for analyzing soils and clays by x-ray fluorescence. He is recognized as an authority in this field and is a Fellow of the Australian Academy of Science.

Standard Types*

Standard Types*	No. of Elements	Stock Code
Silicates & General	53	1201010
Majors	Si, Al, Mg, Na, Fe, Mn, Ti, Ca, K, F, S, P	
Minors	Sc, V, Cr, Co, Cu, Ni, Zn, Ga, Gd, Ge, Se, As, Rb, Sr, Br, Cl, Y, Zr, Nb, Mo, Ag, Cd, Sn, Sb, Te, Cs, Ba, La, Ce, Nd, Pr, Yb, Sm, Hf, Ta, W, Bi, Pb, Tl, Th, U	
Iron Ores	30	1201020
Majors	Fe, Si, Al, Ca, F, Na, Mg, Ti	
Minors	P, S, Cl, K, V, Cr, Mn, Co, Ni, Cu, Zn, As, Br, Sr, Zr, Sn, Ba, Pb, Mo, Cd, Sb, Bi	
Bauxite	31	1201030
Majors	Al, Fe, Si, Ca, F, Na, Mg, Ti	
Minors	P, S, Cl, K, V, Cr, Mn, Co, Ni, Cu, Zn, As, Br, Sr, Zr, Sn, Ba, Pb, Mo, Cd, Sb, Bi, Ga	
Mineral Sands	40	1201040
Majors	Ti, Fe, Zr, Si, Y, La, Ce, F, Na, Mg, Al	
Minors	P, S, K, Pr, Nd, Yb, Cl, Ca, Sc, V, Mn, Cr, Co, Ni, Cu, Zn, Br, As, Sr, Nb, Mo, Cd, Sn, Sb, Ba, Hf, Pb, Th, U	
Cement	23	1201050
Majors	Ca, Si, Al, Mg, Fe, Na, Cl, S, F	
Minors	P, K, Ti, Cr, Mn, Ni, Zn, Sr, As, Se, Br, Ba, Tl, Pb	
Manganese Ores	15	1201070
Majors	Mn, Fe, Si, Na, Mg, Al, Ti, Ba, V	
Minors	P, K, Ca, Sr, Br, Pb	
High Nickel Products	25	1201080
Majors	Ni, Fe, S, Si, F, Na, Mg, Al	
Minors	P, Cl, K, Ca, Ti, Mn, Cr, Co, Cu, Zn, As, Se, Br, Mo, Ag, Pb, Bi	
Rare Earths	39	1201090
Majors	La, Ce, Nd, Y, Al, Mg, Si, P, Na, Fe	
Minors	Pr, Sm, Eu, Tb, Gd, Dy, Ho, Er, Tm, Yb, Lu, F, S, Cl, K, Ca, Sc, Ti, Mn, Ni, Br, Sr, Zr, Nb, Ba, Hf, Pb, Th, U	
Sulphides	Copper, Lead, Zinc & Nickel Sulphide Ores 32	1201100
Majors	Pb, Zn, Fe, Cu, Ni, S, Na, Mg, Al, Si, P, Ca, As, Sb, Bi	
Minors	Cl, K, Ti, Co, Cr, Mn, Se, Ag, Cd, Sn, Ba, U, Mo, Te, Tl, F, Sr	

*Available in both 40mm & 32mm diameter size

Additional types and sizes available upon request.

- We reserve the right to change the design or specification of our products without notice.
- Some of the information contained in this brochure is general in nature and customers should check that it is applicable to their individual circumstances.

DO YOU CATCH THE “DRIFT”?

Recent discussion within the industry has highlighted the importance of monitoring the intensity drift of X-ray tubes operating within XRF spectrometers used in the analysis of wide ranging materials. XRF Drift Monitors allow you the analyst the ability to produce accurate and factorial information that can be relied upon each time.

By running the Drift Monitor within the spectrometer on a regular basis the deterioration of intensities can be monitored and known adjustments made to calculate the most accurate data available. Obviously this is one of the many products in the chain of XRF sample preparation process and assists in liquid, pressed powder pellet and glass disk analysis.

XRF Scientific manufacture high quality Drift Monitors across the commonly known Ausmon range through to specific characterisations applicable to dedicated industries.

Purity of raw materials and low lithium borate content enables us to produce stable, long life, high quality disks. All disks are individually precision ground to obtain a meticulous flat surface and microscopic inspections ensure consistent high quality products every time.

THE COMPLETE SOLUTION

In addition to high-quality XRF Drift Monitors, XRF Scientific also supply and support, through a worldwide distribution network, a wide range of products for your XRF analyses.

Every time you buy from XRF Scientific, you can be assured of:

- Prompt deliveries internationally;
- Quality products; and
- Ongoing support.

xrf fusion equipment

Fusion machines

We manufacture fully automated electric or gas operated fusion machines. Safe, easy and reliable to operate and suitable for various numbers of samples handled per day.

ONGOING SUPPORT

The purchase of any XRF Scientific fusion machine, gas or electric, is the beginning of an ongoing relationship where we and our distributors provide you with access to a broad range of support and technical services to meet your fusion needs.

Whether you are new to fusion or a seasoned professional, we have a range of services to increase the accuracy and throughput of your application.

- Advice on appropriate selection of flux and standards
- Organization of platinum remake processes
- Technical advice on difficult fusion issues
- On-site support and preventative maintenance programs

Please see our website for more details of our representatives in your area: www.xrfscientific.com

xrf flux and chemicals

Flux

We are the world’s pre-eminent manufacturer of flux. We can provide standard borate fluxes or custom solutions to meet your specific needs.

xrf platinum labware

Labware

We manufacture labware for all our fusion instruments in house. We can also provide a remake service for the transfer from other labware designs.

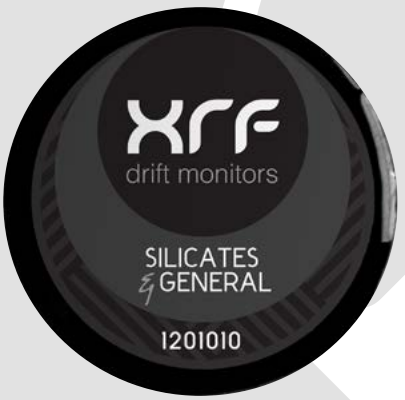
XRF Drift Monitors

The main use of an XRF monitor sample is to correct for instrumental drift over time. It is not necessarily a Certified Reference Material (CRM) or calibration standard but can be used to correct for any changes in the calibration due to variation in instrument performance. The monitor should have good long term stability so that XRF instrument programs can be used for long periods without recalibration.

The prime requirement of a monitor is that the count rates for the elements it contains do not change over time. It is not necessary that the count rates of the elements be near those of the samples being analysed, but certain potential errors are reduced if there is an order of magnitude correspondence between the count rates from the monitor and the samples being analysed. Apart from other considerations this minimizes counting times.

AUSMON Monitors

manufactured by XRF Scientific, have excellent long term stability and this enables them to be used to monitor instrument performance and count rates over extensive periods. Where very low concentrations are being determined, the count rate of the monitor is set not to match the analytes, but it is set to obtain a counting error smaller than required for analysis in a short counting time. Where major elements are being determined, and where the spectrometer has a high sensitivity to those elements, the count rate from the monitor has been adjusted not to exceed count rates that cannot be accurately handled by modern measuring equipment.



Instrument Maintenance

The data obtained from regular analysis of the monitor can also be used to evaluate instrument performance and the laboratory environment. Because these drift monitors do not change with time, intensity changes are indicative of some change in the instrument. A decrease in intensities may indicate instrument maintenance is required. For example, it is common for scintillation counters to decrease in efficiency due to moisture reacting with the NaI crystal. When this happens, the shorter wavelengths (eg SnKa) are minimally affected while there is a large decrease in intensity for longer wavelengths, (eg FeKa).

Checking Instrument Performance

Since the monitors vary very little, different laboratories can compare intensities from the monitor to check that the instruments are giving acceptable performance.

AUSMON – "Silicates & General" contains 53 elements, so it is possible to make a comparison using all the selectable parameters, ie changing crystals, detectors and collimators, etc.

Composition

This monitor contains the following elements as majors:

Fe_2O_3	MnO	TiO_2	CaO	K_2O	SO_3
2.7%	1.0%	1.0%	1.5%	1.9%	1.7%

P_2O_5	SiO_2	Al_2O_3	MgO	Na_2O	F
1.5%	24%	11.7%	10.3%	5.7%	5.7%

Additionally the sample contains approximately 0.2 – 0.5% of each of the following:
Sc, V, Cr, Co, Cu, Ni, Zn, Ga, Gd, Ge, Se, As, Rb, Sr, Br, Cl, Y, Zr, Nb, Mo, Ag, Cd, Sn, Sb, Te, Cs, Ba, La, Ce, Nd, Pr, Sm, Yb, Hf, Ta, W, Bi, Pb, Tl, Th & U.

platinum labware

fusion equipment

precision platinum

lab equipment

flux and chemicals

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