Product Specifications

Thermo Scientific NITON XLi and XLp 300 Series analyzers are the industry standard for lead analysis in applications ranging from paint, to soils and sediments, to dust wipes and air filters, to screening for the presence of lead in ceramic goods and children's toys.

Thermo Scientific NITON® XLi/XLp 300

The Ideal Tool for Lead Analysis

Thermo Scientific NITON 300 Series analyzers provide many distinct advantages:

- **Easy to use - by anyone, anywhere**
- **Integrated barcode reader for fast, easy data entry**
- **Portable GPS integration for real-time contamination mapping**
- **High-strength, rugged, environmentally sealed housing**

Unparalled performance for residential lead inspection.

Government regulations, increased public awareness and legal action have all driven requirements for the identification of lead hazards in the environment. With documented effects such as diminished learning abilities in children, kidney and central nervous system damage, and reduced fertility and miscarriages, researchers have concluded that there is no safe level of lead exposure.[1]

Public health officials, environmental professionals and community activists face an overwhelming challenge: pinpoint lead's location in the environment, identify the sources of contamination, and confirm that clearance criteria have been achieved after abatement. The traditional approach of field-based sample collection, combined with laboratory analysis, has been largely replaced with the use of handheld equipment, effectively bringing the lab into the field. Thermo Scientific NITON x-ray fluorescence (XRF) analyzers quickly identify and quantify lead in virtually all sample types: paint, soil, sediment, dust, air, and more. They can be used effectively for screening for the presence of lead (not quantifying lead levels) in ceramic goods and children's toys. Articles should be sent to a lab for further testing if lead is detected.

Supported by a Performance Characteristic Sheet (PCS) documenting zero inconclusive readings, zero need for substrate correction, and zero false positives/false negatives, the NITON 300 Series determines whether lead is positive (as defined by the US EPA as greater than or equal to 1.0 mg/cm^2), or negative in seconds. Users in jurisdictions with more stringent standards can easily change the action level to ensure compliance with local regulations. Actual lead values are also displayed, permitting users to more accurately quantify the hazards associated with particular samples.

The analysis of lead dust poses another challenge. Widely acknowledged as the primary source of childhood lead poisoning[2], lead dust is hazardous even in very small amounts. Standard practice involves collecting the dust on an ASTM-approved towelette wiped over a one-square foot area (929 cm^2), followed by analysis of the "wipe" for determination of the lead load; dividing the reported lead content by the area yields a lead-dust concentration in µg/ft^2. The NITON 300 Series XRF analyzer offers the ability to perform this analysis on site using the optional Dust Wipe Analysis Mode.

Industrial lead paint measurement for site assessment and worker protection.

In the outdoor environment, lead presents additional challenges. Whether the result of damaged exterior paint, residual contamination from leaded gasoline, a former pesticide application, or by-products from an industrial process, the sheer volume of samples required to accurately determine the extent and surgically delineate the boundaries of contamination demand the speed and accuracy of a Thermo Scientific NITON analyzer. Although portable XRF analysis was once thought of as less reliable than traditional lab-based techniques, the US EPA now acknowledges that inspectors should use the data to "adjust their testing strategy for the property"[3] in real-time to investigate unusual readings. "The result is a clearer delineation of how soil contamination differs from one part of the property to another."[3] When combined with optional Bluetooth™ and a portable GPS device, latitude, longitude and elevation are stored along with the analysis data from each test, permitting real-time contamination mapping.

All NITON analyzers include fully customizable data fields for rapid entry of sample location/condition and site conditions, simplifying reporting and maximizing inspector productivity.

[1]*Lanphear BP, Dietrich K, Auinger P, Cox C. "Cognitive deficits associated with blood lead concentrations <10 microg/dL in US children and adolescents." Public Health Report 2000 Nov-Dec; 115(6) 521–529.*

[2]*Lanphear BP, Matte TD, Rogers J, Clickner RP, Dietz B, Bornschein RL, Succop P, Mahaffey KR, Dixon S, Galke W, Rabinowitz M, Farfel M, Rohde C, Schwartz J, Ashley P, Jacobs DE. "The Contribution of Lead-Contaminated House Dust and Residential Soil to Children's Blood Lead Levels. A pooled analysis of 12 epidemiologic studies." Environ Research. 1998 Oct 79(1):51–68.*

[3]*Lead-Safe Yards, Developing and Implementing a Monitoring, Assessment, and Outreach Program for Your Community, United States Environmental Protection Agency, January 2001, page 68.*

Thermo Scientific NITON 300 Series analyzers are just one of our handheld NITON analyzer solutions, which include XRF analysis tools for metal alloy identification, lead-based paint testing, RCRA metals in soil, toy and consumer goods screening, RoHS and WEEE compliance screening and many other analysis needs.

NITON XLi / XLp 300 Series Specifications

Weight	**XLp: 3.0 lbs (1.4 kg)** **XLi: 1.7 lbs (0.8 kg)**
Dimensions	**XLp: 9.75 x 10.5 x 3.75 inches (248 x 273 x 95 mm)** **XLi: 11.5 x 3.5 x 3.0 inches (292 x 89 x 76 mm)**
Batteries	**(2) Rechargable Quick Swap lithium-ion battery packs** **6-14 hour use each**
Excitation Source	**XLp / XLi: 40 mCi ^{109}Cd (1,480 Mbq) sealed radioisotope**
X-ray Detector	**High-performance, electronically cooled, solid-state detector optimized for Pb L-shell and K-shell x-ray detection**
System Electronics	**Hitachi SH-4 CPU** **ASICS high-speed DSP** **4096 channel MCA**
Display	**Backlit VGA touch-screen LCD**
Testing Modes	**Lead-Based Paint Mode** **K and L Paint Mode** **Bulk Sample Mode** **Thin Sample Mode, including Dust Wipe mode, 37mm Filter Mode** **Thin Sample Mode (user defined)**
Data Storage	**Internal ~6000 readings + spectra**
Data Entry	**Three methods for user data entry:** **Virtual touch-screen keyboard** **User programmable pull-down lists** **Integrated barcode reader**
Data Transfer	**RS-232 serial cable or optional Bluetooth wireless connection** **NDT© PC software utility easily exports data for use in common PC applications and provides data encryption QA/QC documentation**
Standard Accessories	**Portable test stand or inverted stand** **Check/verification standards** **Shielded belt holster** **Locking shielded waterproof carrying case** **110/220 VAC charger/adapter** **Spare lithium-ion battery pack with holster** **RS-232 PC data transfer cable** **NIST traceable Lead Paint Standards**
Optional Accessories	**Bluetooth wireless communication** **Wireless printers and portable GPS**
Security	**Password protected user security**
Licensing/Registration	**Varies by region. Contact your local distributor**

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Americas
Billerica, MA USA
+1 978 670 7460
niton@thermofisher.com

Europe
Munich, Germany
+49 89 3681 380
niton.eur@thermofisher.com

Asia
Central, Hong Kong
+852 2869 6669
niton.asia@thermofisher.com

www.thermo.com/niton

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