Product Specifications

Identification of asbestos-containing materials is critical during renovation and demolition projects and the recycling of construction materials. The Thermo Scientific microPHAZIR AS analyzer can be used in the field and streamlines inspection without compromising accuracy.

Thermo Scientific microPHAZIR AS

Handheld Asbestos Analyzer

Detecting asbestos-containing materials (ACMs) in homes and commercial buildings prior to demolition or renovation is critical to prevent asbestos exposure. Currently, asbestos detection is limited to accredited lab based analysis such as polarized light microscopy, transmission electron microscopy and x-ray diffraction. Lab-based tests are costly and can become even more expensive if a quick turnaround is required.

The Thermo Scientific microPHAZIR AS handheld analyzer is a powerful tool that enables in-field rapid screening and identification of all six types of regulated asbestos fibers. The 2.75 lb (1.25kg) handheld near infrared analyzer is completely self-contained and can perform accurate on-site analysis in seconds.

Key Benefits Include:

Fast, accurate identification

Point-and-shoot operation provides results in seconds and features onboard results storage.

Reduction of laboratory testing

Field-based testing can reduce the need and cost associated with outsourced laboratory testing.

Simple and easy to use

Minimal training required, fully automated operation and automatic reference and calibration.

Reduced sample preparation

Sampling preparation is reduced or eliminated compared to previous screening methods available.

The microPHAZIR™ AS analyzer provides rapid screening of Chrysotile, Crocidolite, Anthophyllite, Tremolite, Actinolite, and Amosite.

Thermo Scientific microPHAZIR AS Specifications

Measurement time	Less than 10 seconds
Sampling Mode	Non-contact diffuse reflectance
Weight	2.75 lb (1.25kg)
Enclosure	High-strength dust proof plastic housing
Source	Tungsten light bulb, safe for operators and sample integrity
Data Storage	All data is stored on internal memory and can be downloaded to PC
Computer Interface	USB cable included
Operating Temp Range	5° to 40°C (40° to 104° F) non-condensing
Power	Batteries: two quick change lithium ion batteries (4.5 hour run-time)
Optional	AC Battery charger included Holster for easy carrying and storage

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Pegram Technologies Inc.
47 Glendonwynne Road, Toronto, ON M6P 3E5
Tel: (416) 466-9171, Email: sales@pegram.ca

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Product Specifications

Near Infrared is a powerful non-destructive chemical analysis and identification tool. Rapid chemical verification and identification is critical in many industries to ensure product quality and customer safety. The Thermo Scientific microPHAZIR GP analyzer enables fast and accurate on-site material analysis.

Thermo Scientific microPHAZIR GP

General Purpose Handheld NIR Analyzer

The Thermo Scientific microPHAZIR GP analyzer is a handheld Near-Infrared (NIR) instrument designed for rapid on-site material identification and analysis. The 2.75 lb analyzer is battery powered and completely self-contained for truly portable analysis.

The microPHAZIR™ GP analyzer provides manufacturers with a portable tool to meet high product quality demands through increased testing. Customizable libraries and methods allow for tailored applications to address unique product requirements.

Key Benefits Include:

Save time

Rapid analysis with no sample preparation

Easy to use

Designed for non-expert users, accurate results displayed within seconds on the easy to read LCD screen

Portable

Small and lightweight for fast identification of materials in the field

Safe

Non-destructive, NIR is fast and safe

Applications Include:

- Food, feed and agriculture analysis
- Incoming chemical raw-material identification
- Quality control and assurance
- Product screening
- At-line monitoring
- Manufacturing troubleshooting
- Quantitative analysis of liquids, solids and pastes

Thermo Scientific microPHAZIR GP

Principle of Operation	Non-destructive chemical analysis via Near Infrared Spectroscopy.
Weight	2.7 lbs
Light Source	Tungsten light bulb, safe for operators and sample integrity. Non-destructive.
Spectral Range	1600 – 2400 nm .
Measurement time	User-definable. Typically 3 seconds or less.
Internal data storage	All measurements stored in internal memory and can be downloaded to PC.
Data Download	Transfer data in text based files to a PC via USB connection. Easily transfer data to all types of applications.
Security	User selectable password protection with multiple security levels.
Operating conditions	Temperature range 40° to 104° F (5° to 40° C).
Batteries	Quick-change, rechargeable lithium-ion battery pack. AC battery charger included.
Housing	High-strength, dust proof/splash proof plastic housing.
Standard accessories	Rugged waterproof carrying case, 110/220 VAC Li-Ion battery and charger. Safety Lanyard.

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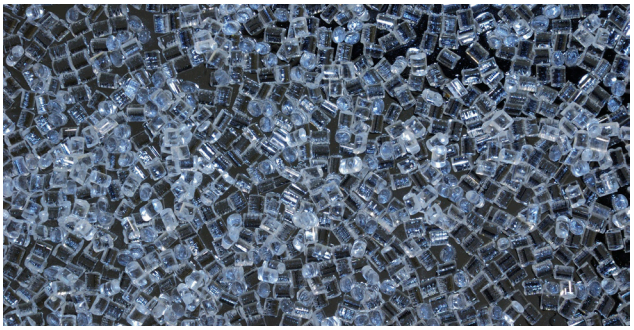
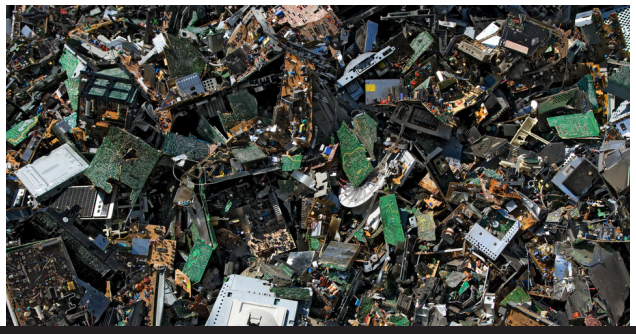
Product Specifications

Identification of plastics and polymers is a critical step in the proper sorting and recycling of post-industrial and post-consumer materials. Thermo Scientific microPHAZIR PC is a cost-effective polymer identification analyzer that streamlines inspection without compromising accuracy.

Thermo Scientific microPHAZIR PC

Handheld Plastics Analyzer





Plastic materials are used to manufacture many types of products from toys to furniture. Each year tons of plastics are discarded and often end up consuming an enormous amount of space in landfills across the country. Increasingly, more of this material is being recovered, recycled, and reused by consumers and recycling facilities.

Recycling rates in the US have been a challenge due to the complexity of sorting and processing. Many states and municipalities offer programs to encourage consumers to recycle plastic containing products. The resulting mixed plastics are sent to large sorting facilities where they are processed. In order to achieve a high quality of reprocessed material, plastics need to be accurately identified and properly sorted. The Thermo Scientific microPHAZIR PC analyzer is a powerful tool to enable rapid screening and identification of plastics types. The 2.75 lb (1.25 kg) handheld NIR analyzer is completely self-contained and can perform accurate on-site analysis in seconds.

Key Benefits Include:

Save Time

Rapid and accurate results displayed within seconds.

Easy to use

Designed for non-expert users, the analyzer is fully automated and requires no user input.

Portable

Small and lightweight for fast identification of materials in the field or at the sorting facility.

Safe

No sample preparation or burn test necessary, NIR is fast, safe and non-destructive.

Identification of common plastic types, including:

PLA, PET, PP, PS, ABS, PI, PSO, PE, PPS, TPV, PTT,PC, PMP, PBT, PA (nylon), PETG, SAN, EVA, PB, PPO, CA, PMMA, PUR, PI, PVC, PLA, Ionomer, Styrenic terpolymer, Elastomer, POM, Nylon+ABS

Thermo Scientific microPHAZIR PC Specifications

Spectral Range	1600-2400 nm (6250-4100 cm^{-1})
Measurement time	< 3 seconds
Sampling Mode	Diffuse reflectance
Weight	2.75 lbs (1.25 kg)
Enclosure	High-strength dust proof plastic housing
Source	Tungsten light bulb, safe for operators and sample integrity
Data Storage	All data is stored on internal memory and can be downloaded to PC
Computer Interface	USB cable included
Operating Temp Range	5 to 50°C (non-condensing)
Power	Batteries: Two Quick Change Lithium Ion batteries (4.5 hour run-time) AC Battery charger included

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Product Specifications

Thermo Scientific microPHAZIR RX

Handheld NIR for Pharmaceutical Raw Material Identification

Raw material identification is a critical step in the quality control process that has tremendous impact on customer safety as well as speed — and cost — of production. With the Thermo Scientific microPHAZIR RX analyzer, a handheld NIR spectrometer, pharmaceutical manufacturers can obtain reliable material identity verification within seconds.

The Thermo Scientific microPHAZIR RX analyzer is a handheld Near-Infrared (NIR) instrument designed for rapid on-site pharmaceutical material identification and analysis. The 2.75 lb (1.25kg) analyzer is battery powered and completely self-contained for truly portable analysis.

The microPHAZIR ™ RX analyzer provides pharmaceutical manufacturers with a portable tool to meet increasing regulatory requirements, improve product quality, and reduce manufacturing costs. The analyzer takes the power of NIR out of the laboratory and into the warehouse to cut costs, ensure product quality through increased testing frequency, while also reducing supply chain risk.

Key Benefits Include:

Save time and increase inspection

Handheld design allows operators to perform analysis right in the warehouse.

Eliminate operator and material exposure

Measures directly through plastic drum liners and glass containers.

100% container inspection

Convenient, non-invasive, sampling approach permits 100% container inspection without the proportional costs.

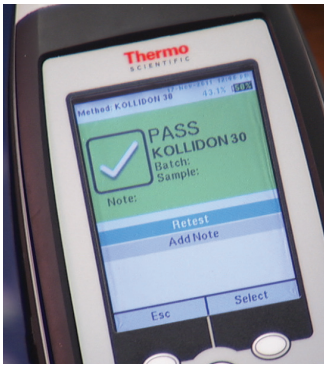
Improved supply chain risk management

Enables manufacturers to meet global GMP requirements, improve inventory management and reduce raw material supply risks.

Applications Include:

- Incoming raw material identification
- Quality control and assurance
- Counterfeit product screening
- At-Line Process Analytical Technology (PAT)
- Process troubleshooting
- Quantitative analysis

The analyzer can measure directly through plastic drum liners and glass containers permitting analysis without opening the packaging.



The microPHAZIR RX analyzer has a ready-to-use PharmaID library containing hundreds of pharmaceutical ingredients, including both APIs and excipients.

Thermo Scientific microPHAZIR RX

Principle of Operation	Non-destructive chemical analysis via Near Infrared Spectroscopy
Samples Mode	Diffuse reflectance, optional adapters for liquids
Weight	2.75 lb (1.25kg)
Light Source	Tungsten light bulb, safe for operators and sample integrity
Measurement Time	Less than 3 seconds
Data Download	Data and Applications synchronization via PC USB connection
Security	Multiple security levels
Batteries	Interchangeable, rechargeable 5+ hours lithium-ion battery pack. AC battery charger included. Battery pack recharge time <2 hours. System includes 2 batteries
Housing	High-strength, dust proof/splash proof plastic housing
Calibration	Factory tested to rigorous standards and USP 1119 protocol using traceable wavelength and photometric standards, includes certificate of compliance
Compliance	USP 34 Chapter 1119, JP 15 Supplement 2, EP 2.2.49 Near Infrared

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