

Spectrometer for Plastic Materials



Overview

Spectrophotometers provide comprehensive color data by analyzing the spectral reflectance of materials across different wavelengths. To Know More About Spectrophotometer. Traditional spectrometers, while reliable, tend to be heavy, expensive, and sensitive to temperature and mechanical shock, restricting their usability in many situations. " The result is greater efficiency and accuracy in plastic color. The best solution for identifying plastics is small, mobile near-infrared spectrometers. The compact handheld spectrometer MicroNIR OnSite-W is just the right solution: Easy handling – plastic detection at the push of a button. It is designed for recyclers, QA teams, and sustainability professionals who need fast, on-the-spot decisions without lab equipment.



Article Content

FTIR-Plastics: A Fourier Transform Infrared Spectroscopy dataset for ...

Samples from these materials were prepared for analysis using Jasco FTIR-6700 PRO 4x spectrophotometer, with parameters adjusted for optimal performance.

FTIR-Plastics: a Fourier Transform Infrared Spectroscopy ...

FTIR-Plastics: a Fourier Transform Infrared Spectroscopy dataset for the six most prevalent industrial plastic polymers.

Plastics Identification Using ATR-FTIR Spectroscopy

Materials and Methods Four plastic samples were analysed: a biodegradable bag, a plant-based bag for electronics packaging, a soft drink bottle, and a juice bottle. The four types were cut to roughly 2x2

Spectroscopy: A promising tool for plastic waste management

The present status of the application of these spectroscopic methods and their scope in developing an industry-oriented plastic sorting system for recycling of plastic waste is discussed.

Mid-Infrared Spectrometer for Black Plastics Sorting

We report the design, implementation and test of a Mid-Infrared spectrometer proof-of-concept that utilizes an uncooled micro-bolometer array,

Portable Plastic Identification with NIR – Solid Scanner

Analyze plastics in seconds with trinamiX PAL One. Sort, verify and document plastic materials for recycling, QA, and design-for-recycling workflows.

Handheld FTIR, Mobile Nondestructive Testing | Agilent

A handheld FTIR spectrometer for mobile non-destructive testing in the field and non-laboratory environments. Analyze FTIR reflectance of polymers, coatings,

Plastic Color Measurement | Measure Color of Plastics

Spectrophotometers measure reflected or transmitted light from plastic materials and convert it into objective numerical color values. This removes visual

FTIR: A Valuable Tool in Plastics Analysis

Plastics manufacturers routinely face a variety of product lifecycle challenges, including analyzing failed parts to determine the root cause and

Identifying plastics with photoluminescence spectroscopy and

In this study, we demonstrate that such an approach could be realized by a combination of photoluminescence spectroscopy and a machine learning-based theoretical analysis.

Detect plastics use mobile spectrometers

For the efficient processing of plastic waste, recycling companies depend on recognizing and reliably identifying plastics. Only unmixed raw materials achieve a good price and can be reused. Incorrect

Detect plastics use mobile spectrometers

Are you looking for an analyzer for Plastics? Our team of experts will be happy to support you and answer your questions about application, technology and options.

FTIR in Plastics and Polymer Identification: Key

Explore the power of Fourier Transform Infrared Spectroscopy (FTIR) for plastics and polymers. Rapidly identify raw materials, analyze blends and

Plastic-based spectrometers offer low-cost, compact solution for ...

Plastic-based spectrometers offer low-cost, compact solution for broadband spectral imaging July 11 2025, by Michael Shuff Birefringence of plastic products in the lab (scale bar: 1 cm).

Identification of Plastic Types Using Discrete Near

Abstract and Figures This paper presents a low-cost and handheld system for the identification of plastic types based on discrete near infrared (NIR)

Fast, On-Site Plastics Identification: trinamiX NIR

Identify plastics quickly and easily with our mobile and robust NIR spectrometer. Get fast, on-site results and accurate plastic identification. Learn how NIR

Spectroscopy for Plastics Recycling

Because techniques like NIR spectroscopy and Raman analysis provide useful information about materials including chemical composition, they're effective in identifying plastics for recycling.

Polymers

Using our point-and-click mobile NIR spectrometer requires no prior training. Simply aim the NIR device at the plastic material in question and press the button for

Exploring Plastic Spectrometers: Design and Applications

In material science, plastic spectrometers play a vital role in characterizing materials and understanding their properties. They assist in analyzing various materials,

How to Use a Spectrophotometer for Plastic Color

Discover how a spectrophotometer for plastics provides accurate plastic color measurement, ensures consistency, and supports reliable color

Plastics Identification Using ATR-FTIR Spectroscopy

KEY POINTS Fourier transform infrared (FTIR) spectroscopy can rapidly identify plastic types The plastic types used in four plastic packaging

Analysis of Traces in Polymers Using Sequential X-Ray

The performance of a Sequential X-Ray Fluorescence Spectrometer for the analysis of trace elements in polymers was tested by measurement of a

Material Identification of Plastics Throughout Their Life ...

Fourier transform infrared (FTIR) spectroscopy is well suited to the identification of different types of plastic, providing reliable, high-quality data, and cost-effective analyses. This application note

Spectrophotometer for Color Measurement in Plastics

By accurately measuring color properties, spectrophotometers ensure that plastic products meet stringent quality standards. This helps manufacturers

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.introspec.co.za>

Email: info@introspec.co.za

Phone: +27 73 849 2156

Address: 25 Riebeek Street, Cape Town, 8001, South Africa

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