



# Near-infrared Spectroscopy

## IDENTIFICATION OF SYNTHETIC POLYMERS BY SPECTROSCOPY

### KEY WORDS

SPECTROSCOPY,  
CLASSIFICATION,  
SYNTHETIC  
POLYMERS

### DESCRIPTION

The service identifies and analyzes synthetic polymers using near-infrared (NIR) spectroscopy, facilitating the precise classification of plastic materials. This technique associates each sample with one of seven conventional polymer types based on its composition, properties, and potential environmental impacts. Accurate identification improves the efficiency of recycling processes and supports material traceability throughout the value chain, moving towards a circular economy. This service is established by assessing the institution's setup requirements and capacity, and reaching an agreement with the user once the established conditions have been evaluated.

### AVAILABLE TECHNIQUES AND/OR EQUIPMENT

- Near-infrared spectroscopy

### APPLICATIONS

- Municipal Solid Waste
- Post-consumer rigid and flexible packaging
- Packaging
- Extended producer responsibility (EPR)
- Waste managers

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