






Analytical Instruments for Microplastics Analysis

Use this guide to find the best Thermo Scientific™ Nicolet™ FTIR and Thermo Scientific™ DXR2 Raman Spectroscopy Solution to help you identify, quantify and characterize microplastics (<5 mm) found in a variety of sample types (environmental, food, beverage).

Microplastic size			Point-and-Shoot		
Configuration					
Measurable Particle Size	5 mm	↕			
	1 mm		↕		
	500 µm				
	100 µm		↕	↕	
	10 µm			↕	↕
	1 µm				
Manual Sample Placement Only	Yes	Yes	Yes	No	No
Automated Analysis of Filters	No	No	No	Yes	Yes
Immunity to Sample Fluorescence	Yes	Yes	Yes	Yes	No
Relative Cost	\$	\$\$	\$\$\$	\$\$\$\$	\$\$\$\$\$

Common Plastics Identifiable by FTIR and Raman Spectroscopy (Sorted in order of density)

Name	Acronym	Typical Density (g/cm ³)
Expanded Polystyrene	EPS	0.02
Polypropylene	PP	0.89
Low-density Polyethylene	LDPE	0.96
High-density Polyethylene	HDPE	0.96
Acrylonitrile-butadiene-styrene	ABS	1.05
Polystyrene	PS	1.06
Polyamide (Nylon)	PA	1.14
Polymethyl methacrylate	PMMA	1.18
Polycarbonate	PC	1.21
Cellulose Acetate	CA	1.3
Polyvinyl chloride	PVC	1.39
Polyethylene terephthalate	PET	1.39
Polytetrafluoroethylene	PTFE	2.2

Find out more at thermofisher.com/microplastics