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Py-GC-MS

Calibration standard:

ASTM D8401-24 kit

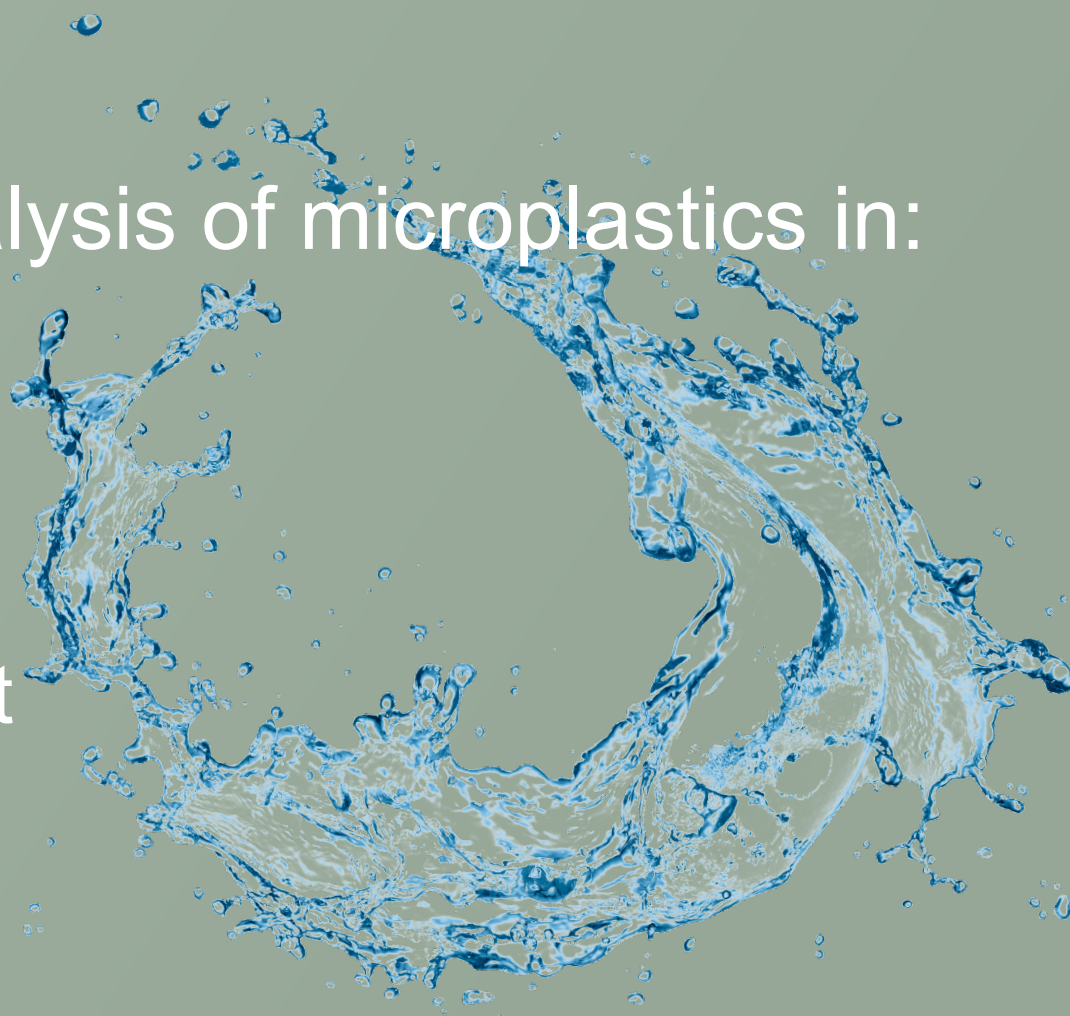
This kit was developed by **Microplastic Solution** in partnership with **CDS Analytical** to support standardized qualitative and quantitative microplastic analysis by Py-GC-MS in accordance with **ASTM D8401-24**



“Standard Test Method for Identification of Polymer Type and Quantity of Microplastic Particles and Fibers in Waters with High to Low Suspended Solids Using Pyrolysis-Gas Chromatography-Mass Spectrometry (Py-GC-MS)”

ASTM D8401-24 kit for the analysis of microplastics in:

- Drinking water
- Surface waters
- Wastewater influent and effluent
- Marine waters



Kit composition and purpose



1) ME-DCM: Methyl eicosanoate (ME) in dichloromethane (DCM) ($0.25 \mu\text{g}/\mu\text{L}$) + 10 μL syringe

ME is an analytical check standard used to monitor the performance and consistency of the GC-MS system during analysis

2) 6-12 polymers* – mineral blend

Calibration and identification of 6 or 12 common polymers mixed into CaCO_3 or SiO_2 diluent

3) Blank control; neat diluent

Quality control / background contamination assessment

* Target polymers and associated pyrolyzate markers

Polymer	Concentration** (µg/mg)	Marker
Polyethylene (PE)	40	1,20-Heneicosadiene
Polypropylene (PP)	10	2,4-Dimethyl-1-heptene
Polyvinyl chloride (PVC)	10	Naphthalene
Polyethylene terephthalate (PET)	4	Benzophenone
Polystyrene (PS)	2	Styrene trimer
Polycarbonate (PC)	1	4-Isopropenyl-phenol
Polymethyl methacrylate (PMMA)	2	Methyl methacrylate
Styrene butadiene rubber (SBR)	4	4-Vinylcyclohexene
Acrylonitrile butadiene styrene (ABS)	4	2-Phenethyl-4-phenylpent-4-enenitrile
Polyamide 6 (PA6)	1,25	ε-Caprolactam
Polyamide 66 (PA66)	4,5	Cyclopentanone
Polyurethane (MDI-based) (PU-MDI)	2,5	4-4'-Methylenedianiline

** Polymer concentrations are specified by ASTM D8401-24 and are intended to support reliable quantification of characteristic pyrolysis markers while minimizing interferences between polymer types

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