



Empowering Circular Economy: Petrochemical Industry's Plastic Circularity Evolution

*"Helping our customers **to grow profitability and to transform towards circular economy** in the petchem market."*

The petrochemical industry faces a pivotal challenge in using plastic waste, triggered by global plastic production exceeding ~400 million tons annually. With cumulative waste surpassing 10 billion tons, including over 5 billion tons of discarded plastic, our role as petrochemical pioneers is to drive sustainable transformation.

PAC's lab and online analyzers offer advanced solutions, with a primary focus on plastic circularity, particularly waste plastic pyrolysis oil (WPPO). Utilizing WPPO as a feedstock presents both opportunities and challenges in the journey toward petrochemical circularity. Key challenges addressed by our analyzers include impurity measurements, chemical group type analysis, distillation measurements, process optimization, and physical properties analysis.

Paving Profitable Growth in the Circular Economy

Our purpose is to drive profitable growth for our customers while guiding them toward a transformative circular economy in the petrochemical market.

Benefits of PAC offerings include:



Mini distillation in <10 minutes using just 10mL of sample, enabling fast process optimization.



Determination of first wax crystals formation temperature, enhancing transportation safety.



Speciated sulfur and nitrogen analysis to ensure product quality.



Online S&N analysis at ppb levels to protect delicate catalysts.

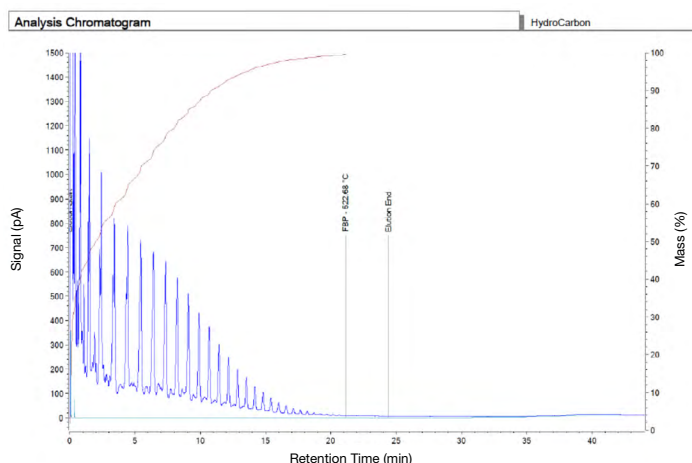


True PIONA content measurement for challenging feeds, improving yield anticipation.

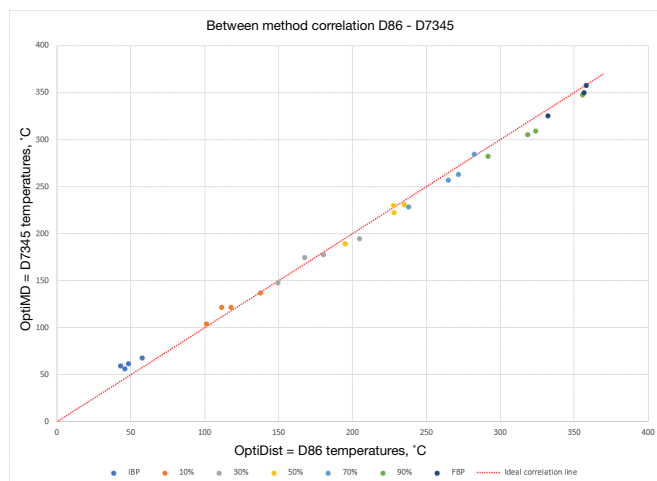
To visually grasp our competencies in analyzing this emerging feed, we present the following visual data

PURITY			GROUP-TYPE		DISTILLATION				PHYSICAL			
Speciated S&N	Total S&N	Online S&N	Full PIONA	Heavy Ends nPIPNA	Simulated	Physical	Mini	Online	Cloud & Wax	Viscosity	Pour Point	Flash Point
SeNSe	ElemenTs	NSure	Reformulyzer-Prefrac	GC x GC	SIMDIS	OptiDist, HDV 632	OptiPMD	MicroDist	WAT-70Xi	HVM 472 ViscoPro2100 (Online)	PPA-70Xi, OptiMPP, OptiCPP	OptiFlash

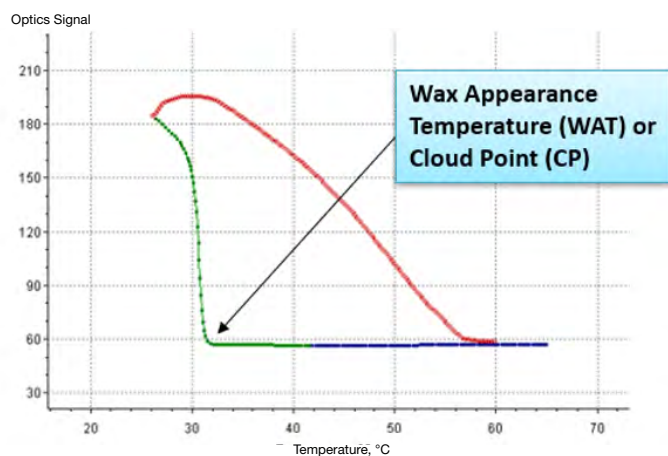
**Please reach out to your regional sales manager to confirm the best suitable solutions specific to your WPPO samples*



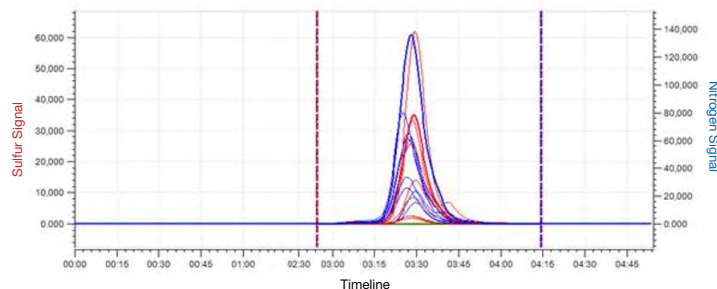
Needle like sharp peaks of SIMDIS data implying paraffinic nature



Promising correlation of D7345(OptiPMD) vs D86(OptiDist) with an R^2 value of 0.9973



Typical graph for wax appearance temperature / cloud point measurement



Complete combustion of various WPPO samples for total N and S analysis in both lab & online



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How can you learn more?

For more information on the leading petrochemical processes and unique PAC offerings, please visit our [Petrochemical Solutions website](https://www.petrochemicalsolutions.com). If you have any further questions, do not hesitate to [contact us here](#).

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