

## **REACH ANALYSIS**

TECHNIQUE	SCOPE
Gasoline GC	< C4, C4, C5, C6, C7, > C7. Key compositional components >10%, classification markers. Global composition per family and carbon number.
Fast SIMDIS	Carbon number distribution up to C44. Temp range -42 to 538°C. Typical samples gasoline, naphtha, jet fuel, gas oil.
HT SIMDIS	Carbon number distribution up to C120. Temp range 36 to 750°C. Typical samples diesel, crude oil, lube oil, residual crude oil.
Reformulyzer	Liquids samples only. Grouped carbon number C3-C11 for paraffins, olefins, aromatics, naphthenes. Oxygenates, ethers and alcohols for petrol and components.
RGA	Gases: C1-C5, inerts, H2S. LPG: C1-C5 > C5 group.
NGA	Gas & LNG: C1-C5 alkanes (olefins interfere), air, CO2

METHOD	SCOPE
• IP 391	Mono-, di- and tri+ aromatic groups in middle distillates with boiling range 150 to 400°C. Suitable for streams containing FAME
• IP 548	Mono-, di- and tri+ aromatic groups in middle distillates with boiling range 150 to 400°C. Not suitable for streams containing FAME
• IP436	Mono- and di- aromatic groups in jet fuel and petroleum distillates with boiling range 50 to 300°C. Suitable for samples containing 0-75% mono-aromatics and 0-25% di-aromatics.

Distillation - We have three distillation units set up to provide analysis by IP123 and a micro-distillation unit

**UV/Vis Spectrophotometry** - We have two UV/Vis spectrophotometers which can be configured for different liquid samples.

FTIR Spectroscopy - We have an FTIR with ATR capability for liquid samples.

**GC / Mass Spectrometry** – We have a GC/MS equipped to analyse liquid, gas and LPG samples. This instrument has a full NIST library installed for the identification of unknown species. Qualitative analysis is available where suitable chromatographic conditions can be achieved. Quantitative work is also possible.

**Nuclear Magnetic Resonance Spectroscopy** - We have access to NMR capability through our network of INEOS and other partner laboratories.