



## MUSEUM NATIONAL D'HISTOIRE NATURELLE

USM 505 Ecosystèmes et interactions toxiques

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### PRELIMINARY RESULTS ON THE COMPOSITION OF THE PRESTIGE FUEL OIL

	INITIAL FUEL PRE-02-105	EMULSION PRE-02-104
SATURATES %	26.6	24.6
AROMATICS	52.8	50.25
RESINS	8.4	9.9
ASPHALTENES	12.2	14.2

## GC DATA

Saturates fraction	n-alkanes	2.15%
	iso-alkanes	2.68%
	UCM *	18.6%
	C17/pristane	1.65
	C18/phytane	1.69
Aromatics fraction	Total resolved peaks	3.14%
	UCM	24.1%
Total GC	resolved peaks	8%
	UCM	43%

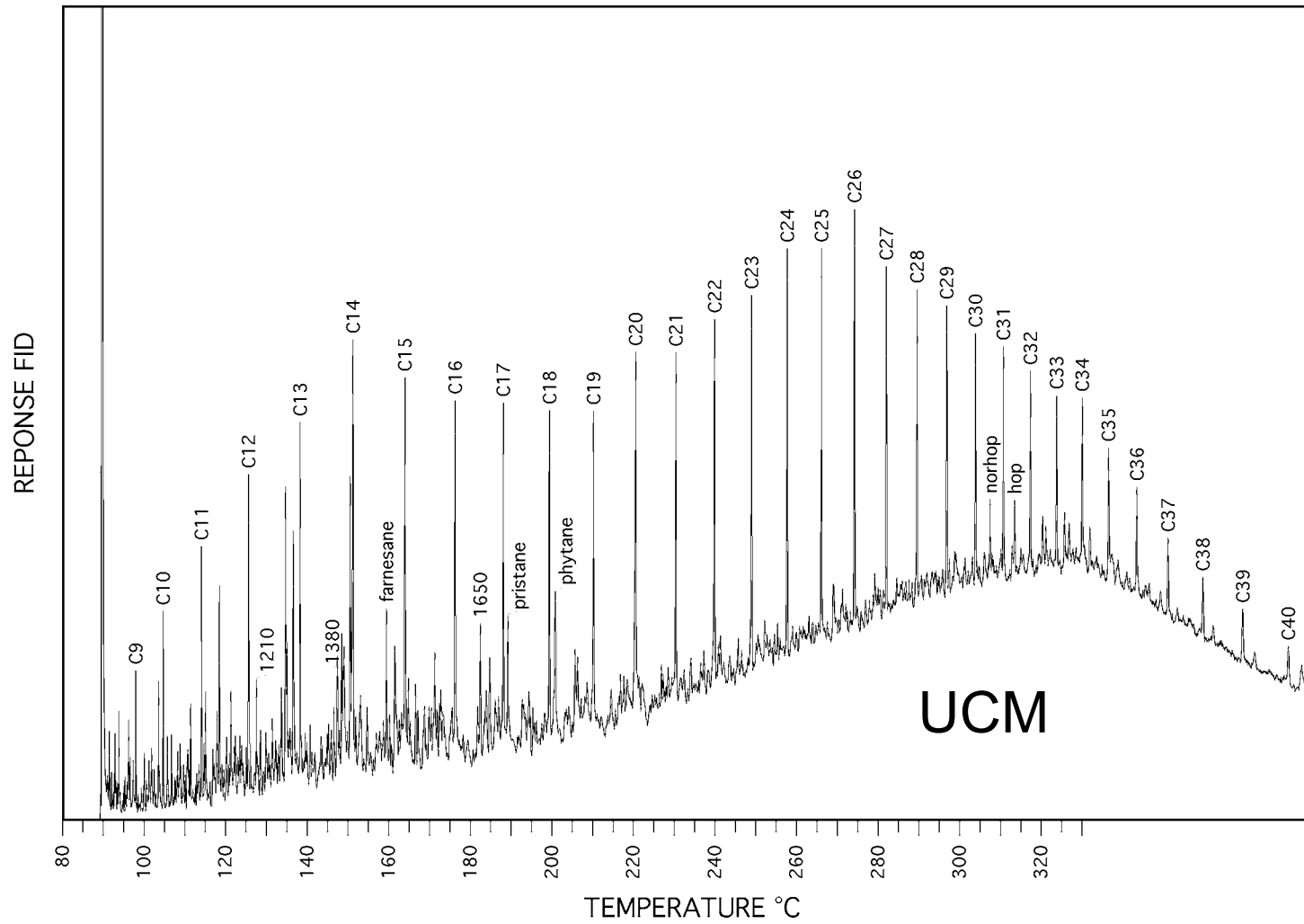
*\*UCM unresolved complex mixture*

## NOTES

- The *PRESTIGE* fuel shows a bimodal distribution :
  - a light-medium fraction C9-C16 similar to a gas oil fraction rich in aromatic HC (from alkylbenzenes to tetramethylnapthalenes)
  - a medium-heavy distillation residue C17-C40+. The residue centered on C33 is heavier than the *ERIKA* residue centered on C26.
- The chemical composition of the emulsion collected after 15 days is exactly similar to the initial composition of the refinery product.
- The biodegradability of the fuel will probably be very low (less than 15 %, *Oudot : Comptes Rendus Acad Sci III, 323,945-950*)  
Bioremediation techniques will be largely inefficient.
- The potential toxicity of the fuel should not be evaluated on the only basis of the 16 EPA PAH content in the fuel (less than 0.1%). The fuel contains more than 3% GC-resolved alkylated PAH and total aromatic content is around 50%. Studies on the toxicity of the entire fuel (or similar) should be undertaken as a basis for reference data on this class of products.

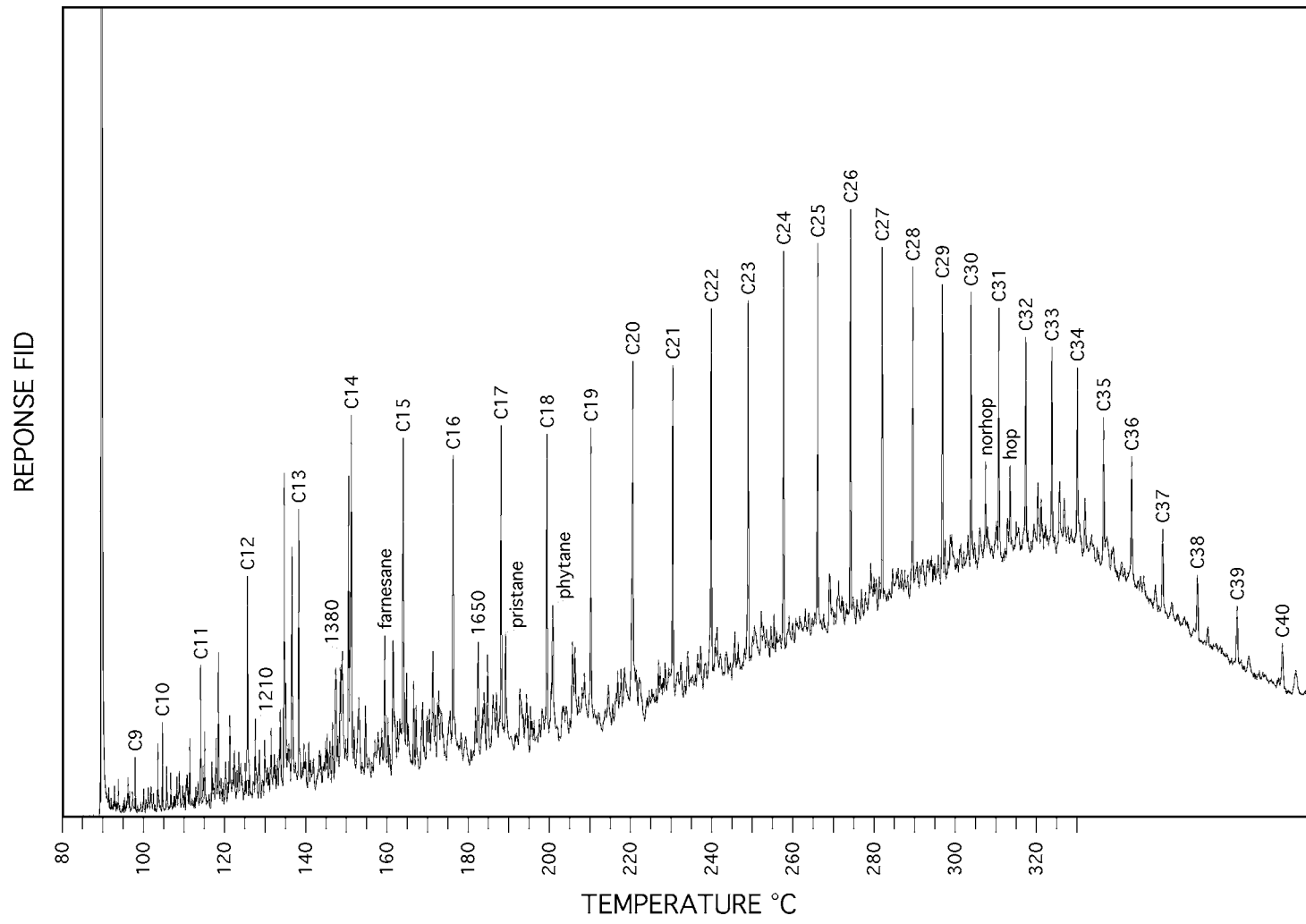
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## INITIAL FUEL OIL (total) PRE-02-105



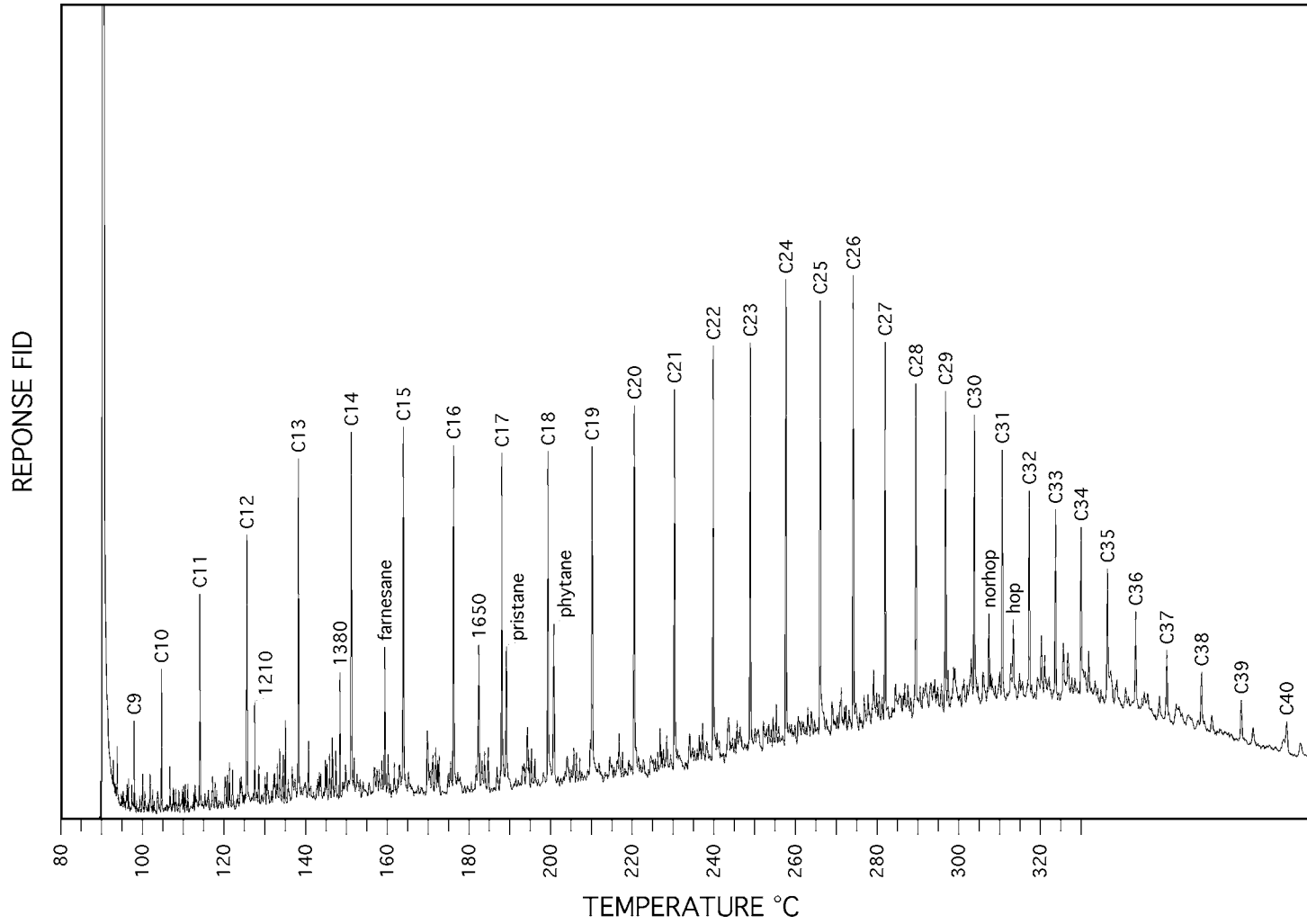
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## EMULSION AILETTE PRE-02-104



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## INITIAL FUEL SATURATES PRE-02-105



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## INITIAL FUEL AROMATICS PRE-02-105

