

Environmental Services

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Dipetane International Limited
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Attn: Mr K Comerford

9th August 1990

Analytical Report No: EN 1714/3

Ref: Exhaust Gas Analysis

In accordance with your instructions we certify that we have carried out analyses on the exhaust gases of a selected company vehicle before and after the addition of Dipetane and the results are as follows:-

1) Before addition of Dipetane

	Motor Car Unleaded <u>Petrol</u>
Oxygen % vol	8.30
Nitrogen % vol	79.01
Carbon Monoxide % vol	0.17
Carbon Dioxide % vol	11.26
N-NO _x µg/l of Gas	1.0
SO _x µg/l of Gas as SO ₃	48.1

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2) After addition of Dipetane (at a ratio of 1:160)

	Motor Car Unleaded <u>Petrol</u>
Oxygen % vol	10.85
Nitrogen % vol	79.84
Carbon Monoxide % vol	0.16
Carbon Dioxide % vol	8.38
N-NO $\mu\text{g/l}$ of Gas	0.7
SO _x $\mu\text{g/l}$ of Gas as SO ₃	11.6
*Sulphur mg/kg	336
Distance performed during test in miles	1174

*NB Sulphur determination was carried out on a sample of fuel drawn from the vehicle at the time of testing after trial.

The methods of sampling/analysis used were as follows:-

In all cases the car engine was warm and left at idling speed for 10-15 minutes prior to commencement of sampling.

For O₂, N₂, CO and CO₂ determinations a 10 lit gas bag was connected to the tail-pipe and filled over a period of 2-3 minutes. This sample was then analysed by Gas Chromatography.

For SO_x determinations the exhaust gas was sampled from the tail-pipe over a period of 30 minutes at a rate of 0.4 lit/min (ie. total sample 12 lit) through a suitable absorber solution. After this time the SO_x concentration in the absorber solution was determined titrimetrically.

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For NO_x determinations a similar procedure was used as for SO_x but in this case the sampling time was 10 minutes at a rate of 0.4lit/min (Total Sample 4lit), through a suitable absorber solution. The NO_x concentration in the absorber solution was determined colorimetrically using a UV spectrophotometer at 550 nm.

for SGS REDWOOD LIMITED
Environmental Services

A handwritten signature in cursive script, reading "R J Millward", written over a horizontal line.

R J Millward