

MONASH UNIVERSITY

PRELIMINARY REPORT

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**Report on 'Oxyshot' EPR Examination**

The standard EPR quartz specimen tube (Wilmad), - 2mm diameter, was used.

A sample of Oxyshot was removed from the supplied bottle, using a pasteurized pipette, and enough transferred to the sample tube to ensure that the EPR cavity active volume (- 0.15 ml) was filled.

The spectrometer was calibrated and checked with our standard Varian 'weak pitch' sample. The chosen temperature for the frozen sample was ~ 130 K, obtained by cooled dry nitrogen. Search around  $g=2$  region of the steady magnetic field (~ 3400 gauss for the ~ 9.4 Ghz microwave frequency, corresponding to a radical spin of  $1/2$  ) showed no signal.

This specimen was then placed in a refrigerator where it was frozen, and remained so for 14 days. Subsequently , it was run again under the same conditions, at fields which would reveal radicals with spins 1 or  $3/2$ .

No signals were obtained. On that day, a new sample of Oxyshot was taken from the bottle, and underwent the same procedure and the same tests. No signals were observed.

**Conclusions.** 1. The lines from any radical species were so broadened by being in the solid state as to be undetectable; TEST: use special solution cell at room temperature for further EPR work. Or 2: the 'compensation' has got rid of the free magnetic moments.

- Dr Gordon Troup