

3M UK Corporate Analytical Services - Report No 7071

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Subject : **Analysis of 'used' FC-77**

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Date : 9 July, 2007



Background

A sample of FC-77 fluid was supplied for analysis. The sample was labelled as follows.

- i) FC-77 Mars test

Analysis was required to determine if the sample contained any appreciable amounts of hydrogen fluoride (HF) or perfluoroisobutylene (PFIB). Both of these chemicals are known to be extremely hazardous to health.

Analysis Results and Discussion

The sample was analysed using capillary gas chromatography coupled with a mass selective detector (GC-MS). The chromatograms obtained were searched for characteristic mass fragments of HF and PFIB. No detectable level of either compound was found.

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Conclusions

The analysis carried out showed no detectable levels of hydrogen fluoride in the sample supplied. The limit of detection for the analysis is estimated at less than 1 ppmv. The OEL (Operator Exposure Limit) in the United Kingdom for Hydrogen Fluoride is 2ppmv.

The theoretical rate of production of PFIB is 1000 lower than HF. Any PFIB present in the samples is therefore likely to be present at low part per billion concentrations if at all.