

approach should have a considerable retrospective capability while also enabling to identify chemicals which were previously used or produced in the plant even without sampling from the interior of the vessels etc. (i.e., in a non-intrusive way which would not interfere with normal facility operations).

2.4. Wipe test results (measurement point 6)

A solution of DIMP in n-hexane was sprayed onto the surface of a reaction vessel 2.5 hours before the test. The amount so applied to the steel surface was approximately 10 microgram per square centimeter. The sampling device was an aerosol filter paper (diameter 2 cm). After sampling, the filter paper was inserted into the inlet head of the IMS. The results so recorded are presented in figure 13. DIMP was clearly identifiable in the sample.

Additional tests are still under way to establish the retrospective time coverage capability of that test.

2.5. Dust sample results

Dust samples taken from the factory ground were analyzed. In a validation experiment, such dust samples were transferred into the laboratory and spiked with different concentrations of DIMP. Several hours after preparation, the samples were placed into a special inlet system of the IMS and spectra were subsequently recorded. The results are presented in figure 14. DIMP can clearly be identified at 10 and 100 micrograms in a 7 grams dust sample. Additional tests are still under way.

2.6. Identification of DIMP in the actual parathion-methyl product solution (sampling point 8)

A sample was taken from a reaction vessel containing the final product solution, and taken to the laboratory. DIMP was added at a concentration of 0.04 per cent (in relation to parathion-methyl). It was assumed that this concentration might represent a residue concentration of a former production after cleaning the plant and re-starting synthesis of another product, in the first batch.

The time dependence of the recorded signal is presented in figure 15. This time dependence may be a result of alterations in the sample over time, partial phase separation, and evaporation. However, the results clearly show that traces of the simulant remain detectable at the concentration chosen.