

Analytical Research Division  
Research Directorate

(31)

02 Nov 84

Analysis/Evaluation of Yellow Powder

A shipment designated 10027FFFF was received by the Analytical Research Division, 16 August 1983, from FSTC. The sample was also identified with the number C-225-83. The shipment consisted of approximately 100 mg of yellow powder containerized in a plastic bag. No further information was available about the sample.

A vapor sample withdrawn from within the plastic bag containing the powder was subjected to analysis by gas chromatography/mass spectrometry (GC/MS). A portion of the powder was leached with chloroform. Another portion was leached in 1:1 methanol:water. The solvent soluble materials were analyzed by GC/MS, ion chromatography (IC), thin layer chromatography (TLC), and infrared spectrometry (IR).

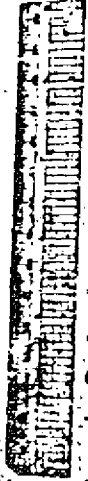
The GC/MS spectra of the vapors associated with the powder identified the presence of a branched hexene, 3-hexene-1-ol, heptenol, benzene, toluene, ethyl toluene, xylene, styrene, and di-t-butyl-p-aminomethylphenol. The GC/MS spectra of the chloroform solubles identified the presence of saturated aliphatic hydrocarbons, C20 to C28. IC was negative for all ions of interest. No components were separated by TLC. Derivatization with negative ion chemical ionization MS detection for trichothecenes was negative. IR spectra identified the presence of a series of saturated aliphatic hydrocarbons resembling beeswax and RDX. By solvent extraction, the powder was determined to be approximately 20% wax and 80% RDX.

Conclusions

No evidence of any known CW agents, agent degradation products, or trichothecenes was detected. The sample appears to be a mixture of 80% RDX:20% wax, similar to beeswax.

Classify by: CIA

Declassify: OADR



L0027 FFFF

# Light Microscope Analysis of Sample 10027 F4

Cross Description - light orange <sup>colored</sup> powder.

Preparation of Sample - Small amount of sample was put onto a slide with glycerine jelly. A cover slip was put on top, sealed with paraffin wax.

Sample was viewed under oil immersion lens, 970x magnification. This showed polymorphic ranging in size 60x70 $\mu$ m to larger - 140x140 $\mu$ m particles. Many of photos are out of focus due to large depth of field. Yellow granules were dispersed throughout the material. Much apparent colorless.

Enclosed find three (3) photos 1, 2, 3 all 970x

Sample # 10027 F4

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