



Manufacturer's Information

Test No. 17-536: Ignitable Liquid Identification

Each sample set consisted of four items: one nylon bag that contained a cloth remnant to which an ignitable liquid had been added, one nylon bag that contained a charred piece of red oak to which an ignitable liquid had been added, one nylon bag that contained a sample of the unburned red oak substrate, and one nylon bag that contained a sample of the cloth substrate. Participants were requested to identify and indicate the ASTM class for any ignitable liquid(s) detected in the submitted items.

SUBSTRATE PREPARATION: The cotton cloth was prepared by cutting it into 2" x 2" squares after it had been washed and dried. The charred red oak was prepared by cutting planks of red oak into 1" x 2" x 1" pieces using a miter saw. These wood pieces were then charred on a small grill using pieces of scrap red oak as fuel for the fire.

ITEMS 1 and 2 (SAMPLE PREPARATION): The ignitable liquid used for Item 1 was a product labeled as Kingsford Odorless Charcoal Lighter Fluid. The lighter fluid was purchased from a local home improvement store in July 2017. The ignitable liquid used for Item 2 was a product labeled as Daler Rowney Low Odor Thinner. The paint thinner was purchased online from an art supplies store in April 2017. After adding 50 μ l of the ignitable liquid to the substrate, it was immediately double heat-sealed in a 5" x 10" nylon bag using an impulse heat sealer which produces a 1/8" wide band. This bag was then placed in a pre-labeled 6" x 12" nylon bag and double heat-sealed across the top. After sealing, each bag was inspected to determine if it contained an adequate amount of air space. Each Item was prepared separately and stored in different locations until the complete sample sets were packaged.

ITEMS 3 and 4 (COMPARISON BLANKS): The samples were packaged in the same way as described for Items 1 and 2, but the red oak pieces were not charred and no ignitable liquid was added to either sample.

SAMPLE SET ASSEMBLY: Once verification was completed, all sample sets were prepared. Prior to packing items into sample pack boxes, each item was again inspected to ensure it contained an adequate amount of air space. For each sample set, an Item 1, 2, 3 and 4 were each placed into a pre-labeled sample pack box. This process was repeated until all of the sample sets were prepared.

VERIFICATION: Laboratories that conducted predistribution analysis of the items classified the ignitable liquid in Item 1 as medium Petroleum Distillates (including de-aromatized) and Item 2 as medium Isoparaffinic Products. The liquid was classified using the ASTM classification scheme.*

*Source: ASTM E 1618-14, *Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectrometry*, Table 1.