



## Ignitable Liquid Identification Test No. 17-536 Summary Report

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Each sample set consisted of one nylon bag that contained a cloth remnant to which an ignitable liquid had been added (Item 1), one nylon bag that contained a charred piece of red oak to which an ignitable liquid had been added (Item 2), one nylon bag that contained a sample of the unburned red oak substrate (Item 3), and one nylon bag that contained a sample of the cloth substrate (Item 4). Data were returned from 309 participants and are compiled into the following tables:

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This report contains the data received from the participants in this test. Since these participants are located in many countries around the world, and it is their option how the samples are to be used (e.g., training exercise, known or blind proficiency testing, research and development of new techniques, etc.), the results compiled in the Summary Report are not intended to be an overview of the quality of work performed in the profession and cannot be interpreted as such. The Summary Comments are included for the benefit of participants to assist with maintaining or enhancing the quality of their results. These comments are not intended to reflect the general state of the art within the profession.

Participant results are reported using a randomly assigned "WebCode". This code maintains participant's anonymity, provides linking of the various report sections, and will change with every report.

## **Manufacturer's Information**

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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  $\mu$ 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 1618-11, Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectrometry, Table 1.*

## **Summary Comments**

This test was designed to allow participants to assess their ability in the extraction and identification of ignitable liquids on a cloth remnant and a charred piece of red oak packaged in nylon bags. Participants were provided with 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. The cloth remnant in the Item 1 bag contained a product labeled as Kingsford Odorless Charcoal Lighter Fluid. The charred piece of red oak in the Item 2 bag contained a product labeled as Daler Rowney Low Odor Thinner. (Refer to the Manufacturer's Information for preparation details.)

Of the 309 participants who reported classification results for Item 1, 292 (94.5%) classified the ignitable liquid as belonging to the Petroleum Distillates (including De-Aromatized) classification. Of the remaining 17 participants, 15 classified it as belonging to the Naphthenic Paraffinic Products classification, one classified it as belonging to the Isoparaffinic Products classification, and one classified it as belonging to the Others - Miscellaneous classification.

Of the 309 participants who reported classification results for Item 2, 289 (93.5%) classified the ignitable liquid as belonging to the Isoparaffinic Products classification. Of the remaining 20 participants, eight reported "no ignitable liquid(s) detected", six classified the ignitable liquid as belonging to the Naphthenic Paraffinic Products classification, four classified the ignitable liquid as belonging to the Petroleum Distillates (including De-Aromatized) classification, and two classified it as belonging to the Others - Miscellaneous classification.

The most common extraction technique utilized was heated passive headspace concentration with carbon/charcoal absorbent and solvent desorption. The most common identification technique utilized was GC/MS.

# Ignitable Liquid Identification

*Indicate the ASTM E 1618-14 class or classes for any ignitable substances detected in the submitted items.*

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
2673KT	Petroleum Distillates (including De-Aromatized)	Medium
26MAPB	Petroleum Distillates (including De-Aromatized)	Medium
28YRAG	Petroleum Distillates (including De-Aromatized)	medium
2DZ43R	Petroleum Distillates (including De-Aromatized)	Medium
2FJBV3	Petroleum Distillates (including De-Aromatized)	Medium
2TTWET	Petroleum Distillates (including De-Aromatized)	Medium
32JKZM	Petroleum Distillates (including De-Aromatized)	medium
39FNJT	Petroleum Distillates (including De-Aromatized)	medium
39GJ73	Petroleum Distillates (including De-Aromatized)	Medium
3DBCKR	Petroleum Distillates (including De-Aromatized)	medium
3EKGWU	Petroleum Distillates (including De-Aromatized)	Medium
3JEHVN	Petroleum Distillates (including De-Aromatized)	Medium
3L4R44	Petroleum Distillates (including De-Aromatized)	Medium
3NUQNU	Petroleum Distillates (including De-Aromatized)	medium
3TRCBQ	Petroleum Distillates (including De-Aromatized)	Medium
3ULX6G	Petroleum Distillates (including De-Aromatized)	Medium
3UV9FT	Petroleum Distillates (including De-Aromatized)	Medium range
46GJRR	Petroleum Distillates (including De-Aromatized)	Medium
46YECE	Petroleum Distillates (including De-Aromatized)	Medium
488MKY	Petroleum Distillates (including De-Aromatized)	Medium
4L2ARQ	Petroleum Distillates (including De-Aromatized)	Medium
4LQ86R	Petroleum Distillates (including De-Aromatized)	Medium
4NRDKX	Petroleum Distillates (including De-Aromatized)	Medium
4QEZ9E	Petroleum Distillates (including De-Aromatized)	medium petroleum distillate
4R79ZV	Petroleum Distillates (including De-Aromatized)	Medium
4RBF66	Petroleum Distillates (including De-Aromatized)	Medium
4UF6NK	Petroleum Distillates (including De-Aromatized)	Medium
4W6PDP	Petroleum Distillates (including De-Aromatized)	medium
4YDF3T	Petroleum Distillates (including De-Aromatized)	Medium
6DNKMQ	Petroleum Distillates (including De-Aromatized)	Medium
6FLC6N	Petroleum Distillates (including De-Aromatized)	Medium
6LWG7N	Petroleum Distillates (including De-Aromatized)	Medium
6N3TZH	Petroleum Distillates (including De-Aromatized)	Medium
6WGTFF	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
6YB3ZH	Petroleum Distillates (including De-Aromatized)	Medium
72AZNF	Petroleum Distillates (including De-Aromatized)	Medium
7336RM	Petroleum Distillates (including De-Aromatized)	medium
7A2KNM	Petroleum Distillates (including De-Aromatized)	medium
7F4NJM	Petroleum Distillates (including De-Aromatized)	C9-C12 (Medium)
7G6AJ9	Petroleum Distillates (including De-Aromatized)	medium
7M9DA8	Petroleum Distillates (including De-Aromatized)	Medium
7N32UN	Petroleum Distillates (including De-Aromatized)	Medium
7NLY9A	Petroleum Distillates (including De-Aromatized)	Medium
7ULEHP	Petroleum Distillates (including De-Aromatized)	Medium
7UPWPZ	Petroleum Distillates (including De-Aromatized)	Medium
7UQLVH	Petroleum Distillates (including De-Aromatized)	Medium
7VNW8	Naphthenic Paraffinic Products	Medium
7VWF9W	Others - Miscellaneous	Light (C4-C9)
7WBK3L	Petroleum Distillates (including De-Aromatized)	Medium
7Y4FZF	Petroleum Distillates (including De-Aromatized)	Medium
7ZR8GT	Petroleum Distillates (including De-Aromatized)	Medium
84V6WD	Petroleum Distillates (including De-Aromatized)	Medium
8B6REU	Petroleum Distillates (including De-Aromatized)	Medium
8DJ67V	Petroleum Distillates (including De-Aromatized)	Medium
8HRDMZ	Petroleum Distillates (including De-Aromatized)	Medium
8K6QKA	Petroleum Distillates (including De-Aromatized)	Medium
8NDJ7T	Petroleum Distillates (including De-Aromatized)	Medium
8VH3PR	Petroleum Distillates (including De-Aromatized)	Medium
8YV8WK	Petroleum Distillates (including De-Aromatized)	Medium
8Z9LKW	Petroleum Distillates (including De-Aromatized)	Medium
92G7PA	Petroleum Distillates (including De-Aromatized)	Medium
93A2CH	Petroleum Distillates (including De-Aromatized)	Medium
948CA7	Petroleum Distillates (including De-Aromatized)	Medium
96YBKX	Petroleum Distillates (including De-Aromatized)	Medium
9AVT8Q	Petroleum Distillates (including De-Aromatized)	Medium
9B6VTP	Petroleum Distillates (including De-Aromatized)	Medium
9BKBUJ	Petroleum Distillates (including De-Aromatized)	Medium
9FUNFQ	Petroleum Distillates (including De-Aromatized)	MPD (Medium Petroleum Distillate)
9JJN4K	Petroleum Distillates (including De-Aromatized)	medium
9RV3KV	Petroleum Distillates (including De-Aromatized)	Medium
9T6UVW	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
9W644D	Petroleum Distillates (including De-Aromatized)	Medium
9WAD4Q	Petroleum Distillates (including De-Aromatized)	Medium
9X2E22	Petroleum Distillates (including De-Aromatized)	Medium
9XZVQK	Petroleum Distillates (including De-Aromatized)	Medium (C9-C12)
9YBNRD	Petroleum Distillates (including De-Aromatized)	Medium
9Z6AK6	Petroleum Distillates (including De-Aromatized)	Medium
9ZN66U	Petroleum Distillates (including De-Aromatized)	Medium
A6HC6F	Petroleum Distillates (including De-Aromatized)	Medium
A7CFGM	Petroleum Distillates (including De-Aromatized)	Medium
A9CC3P	Petroleum Distillates (including De-Aromatized)	medium
A9JD9J	Petroleum Distillates (including De-Aromatized)	Medium
AEJW88	Petroleum Distillates (including De-Aromatized)	medium
AJ7EWK	Petroleum Distillates (including De-Aromatized)	Medium
AQFZGT	Petroleum Distillates (including De-Aromatized)	medium petroleum distillate
AWXHMQ	Petroleum Distillates (including De-Aromatized)	medium
AXY7CE	Petroleum Distillates (including De-Aromatized)	Medium
B689PT	Petroleum Distillates (including De-Aromatized)	Medium
B9CQ9G	Petroleum Distillates (including De-Aromatized)	medium
BBB82J	Naphthenic Paraffinic Products	Medium (C8 -C13)
BD6RDF	Petroleum Distillates (including De-Aromatized)	Medium
BK9W3E	Petroleum Distillates (including De-Aromatized)	Medium
BLFANM	Petroleum Distillates (including De-Aromatized)	medium
BNLG8E	Petroleum Distillates (including De-Aromatized)	Medium
BUT6KG	Petroleum Distillates (including De-Aromatized)	medium
BUWFT7	Petroleum Distillates (including De-Aromatized)	Medium
BV7QJH	Petroleum Distillates (including De-Aromatized)	medium
C4C24T	Petroleum Distillates (including De-Aromatized)	Medium
CEDL7L	Petroleum Distillates (including De-Aromatized)	Medium
CG3TQH	Petroleum Distillates (including De-Aromatized)	medium
CHEMAP	Petroleum Distillates (including De-Aromatized)	Medium
CNXXFD	Petroleum Distillates (including De-Aromatized)	Medium
CRPHVJ	Petroleum Distillates (including De-Aromatized)	Medium
CUP39G	Petroleum Distillates (including De-Aromatized)	medium (De-Aromatized)
CV2QY9	Petroleum Distillates (including De-Aromatized)	Medium
CWX4JF	Petroleum Distillates (including De-Aromatized)	Medium
CXARYL	Petroleum Distillates (including De-Aromatized)	Medium
CY4HZU	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillate

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
D4N8RG	Petroleum Distillates (including De-Aromatized)	Medium (C9 - C12)
DAXDDF	Petroleum Distillates (including De-Aromatized)	Medium
DBQ8D6	Petroleum Distillates (including De-Aromatized)	Medium
DCMMLV	Petroleum Distillates (including De-Aromatized)	Medium
DLP3BZ	Petroleum Distillates (including De-Aromatized)	Medium
DM62T6	Petroleum Distillates (including De-Aromatized)	Medium
DNE79E	Petroleum Distillates (including De-Aromatized)	Medium
DUZBUP	Petroleum Distillates (including De-Aromatized)	medium
DV2U8P	Petroleum Distillates (including De-Aromatized)	Medium
EC47X7	Petroleum Distillates (including De-Aromatized)	Medium
ECZJHD	Petroleum Distillates (including De-Aromatized)	medium
EEPZNF	Petroleum Distillates (including De-Aromatized)	Medium
EGAZGF	Petroleum Distillates (including De-Aromatized)	Medium in the range C8 to C12
EM226A	Petroleum Distillates (including De-Aromatized)	Medium
EMVTF	Petroleum Distillates (including De-Aromatized)	Medium
EP9GEZ	Petroleum Distillates (including De-Aromatized)	Medium
EPKZDC	Petroleum Distillates (including De-Aromatized)	Medium
EPQ9P7	Petroleum Distillates (including De-Aromatized)	Medium (C8-C12)
ERAGEX	Petroleum Distillates (including De-Aromatized)	Medium
EU36K9	Petroleum Distillates (including De-Aromatized)	Medium
F2G86F	Petroleum Distillates (including De-Aromatized)	Medium
F4MYTM	Petroleum Distillates (including De-Aromatized)	Medium
F7C7DJ	Petroleum Distillates (including De-Aromatized)	medium
FB8XKF	Petroleum Distillates (including De-Aromatized)	Medium
FCFAWQ	Naphthenic Paraffinic Products	Medium
FJZBGA	Petroleum Distillates (including De-Aromatized)	medium
FKB8PK	Petroleum Distillates (including De-Aromatized)	Medium
FRCEDZ	Petroleum Distillates (including De-Aromatized)	Medium
FRCH36	Petroleum Distillates (including De-Aromatized)	Medium
FTZPGN	Petroleum Distillates (including De-Aromatized)	Medium
FXHYUD	Petroleum Distillates (including De-Aromatized)	Medium
FYNMNA	Petroleum Distillates (including De-Aromatized)	MEDIUM
FZJ9HZ	Petroleum Distillates (including De-Aromatized)	Medium
G74NJD	Petroleum Distillates (including De-Aromatized)	Medium
G7RPTA	Petroleum Distillates (including De-Aromatized)	medium
G9TWQT	Petroleum Distillates (including De-Aromatized)	medium
GBV47	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
GEFUBA	Naphthenic Paraffinic Products	
GFD4FD	Petroleum Distillates (including De-Aromatized)	Medium
GFQRPR	Naphthenic Paraffinic Products	Medium
GKPXAN	Petroleum Distillates (including De-Aromatized)	Medium
GMW8PZ	Petroleum Distillates (including De-Aromatized)	MEDIUM
GN3QGJ	Petroleum Distillates (including De-Aromatized)	Medium
GZHQ2G	Petroleum Distillates (including De-Aromatized)	Medium
H6UPEV	Petroleum Distillates (including De-Aromatized)	Medium
H7HJF6	Petroleum Distillates (including De-Aromatized)	Medium
H8DVL7	Petroleum Distillates (including De-Aromatized)	medium, dearomatized
H9BECD	Petroleum Distillates (including De-Aromatized)	Medium
HEWENK	Petroleum Distillates (including De-Aromatized)	medium
HG3L6R	Petroleum Distillates (including De-Aromatized)	Medium C8-C13
HGLK9G	Petroleum Distillates (including De-Aromatized)	Medium
HRKF7C	Petroleum Distillates (including De-Aromatized)	Medium
HTQWAA	Petroleum Distillates (including De-Aromatized)	MEDIUM RANGE
HVL9FB	Petroleum Distillates (including De-Aromatized)	Medium
J9KR7Z	Petroleum Distillates (including De-Aromatized)	Medium
JFHGRB	Petroleum Distillates (including De-Aromatized)	Medium
JJ2EHM	Naphthenic Paraffinic Products	Medium
JJ49WL	Petroleum Distillates (including De-Aromatized)	Medium
JKJEMX	Petroleum Distillates (including De-Aromatized)	Medium
JLEYE4	Petroleum Distillates (including De-Aromatized)	medium
JRGXY2	Petroleum Distillates (including De-Aromatized)	MEDIUM
JRZ4YQ	Petroleum Distillates (including De-Aromatized)	Medium
JUN9ZB	Petroleum Distillates (including De-Aromatized)	Medium
JXRZBW	Petroleum Distillates (including De-Aromatized)	Medium
K3UQTT	Petroleum Distillates (including De-Aromatized)	Medium
K6KRWW	Petroleum Distillates (including De-Aromatized)	Medium Range
K828WM	Petroleum Distillates (including De-Aromatized)	Medium
K9FJT8	Naphthenic Paraffinic Products	Medium
KBPK3K	Naphthenic Paraffinic Products	Medium
KGE2CP	Naphthenic Paraffinic Products	Medium
KGRT3L	Petroleum Distillates (including De-Aromatized)	Medium
KJWLWJ	Petroleum Distillates (including De-Aromatized)	medium
KKYX7A	Petroleum Distillates (including De-Aromatized)	Medium
KMZC7K	Naphthenic Paraffinic Products	Medium (C8-C13)



TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
KPR7AF	Petroleum Distillates (including De-Aromatized)	Medium
KRWR49	Petroleum Distillates (including De-Aromatized)	Medium
KTL6FY	Petroleum Distillates (including De-Aromatized)	Medium
KXYQN7	Petroleum Distillates (including De-Aromatized)	Medium
L2YF9Q	Petroleum Distillates (including De-Aromatized)	Medium
L4NK64	Petroleum Distillates (including De-Aromatized)	Medium
LP4624	Petroleum Distillates (including De-Aromatized)	medium
LPLGDH	Petroleum Distillates (including De-Aromatized)	Medium
LVRTUN	Petroleum Distillates (including De-Aromatized)	Medium
M9UQ48	Petroleum Distillates (including De-Aromatized)	Medium
MCA9DB	Petroleum Distillates (including De-Aromatized)	Medium
MDNNTX	Petroleum Distillates (including De-Aromatized)	Medium
MHYQP2	Petroleum Distillates (including De-Aromatized)	Medium
MJGM8T	Naphthenic Paraffinic Products	Medium Range
ML2JRD	Petroleum Distillates (including De-Aromatized)	Medium
MLY49K	Petroleum Distillates (including De-Aromatized)	Medium
MN7E6N	Petroleum Distillates (including De-Aromatized)	Medium
N2CK29	Petroleum Distillates (including De-Aromatized)	Medium
N727N2	Petroleum Distillates (including De-Aromatized)	Medium
N76PUC	Petroleum Distillates (including De-Aromatized)	Medium
N9WNCW	Petroleum Distillates (including De-Aromatized)	Medium
NCM9PE	Petroleum Distillates (including De-Aromatized)	medium
NEVCL9	Petroleum Distillates (including De-Aromatized)	Medium
NJNCZ4	Petroleum Distillates (including De-Aromatized)	Medium
NM9FC8	Petroleum Distillates (including De-Aromatized)	Medium
NQ7T6Y	Petroleum Distillates (including De-Aromatized)	Medium
NQMA3F	Petroleum Distillates (including De-Aromatized)	Medium
NTULZ2	Petroleum Distillates (including De-Aromatized)	Medium
NY2R3Z	Petroleum Distillates (including De-Aromatized)	Medium
P2MXUC	Petroleum Distillates (including De-Aromatized)	medium-range
P3J9TJ	Petroleum Distillates (including De-Aromatized)	Medium
P4FVEM	Petroleum Distillates (including De-Aromatized)	Medium
P6AG7T	Petroleum Distillates (including De-Aromatized)	Medium
P6PULP	Petroleum Distillates (including De-Aromatized)	medium
P72JT9	Petroleum Distillates (including De-Aromatized)	Medium
P7X2Q4	Petroleum Distillates (including De-Aromatized)	medium
P8BPA4	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
PF4VU4	Petroleum Distillates (including De-Aromatized)	Medium
PHNVXQ	Petroleum Distillates (including De-Aromatized)	Medium
PPCLH2	Petroleum Distillates (including De-Aromatized)	Medium
PR2ZW3	Petroleum Distillates (including De-Aromatized)	Medium
PTAWH8	Petroleum Distillates (including De-Aromatized)	Medium
PXMTBN	Petroleum Distillates (including De-Aromatized)	Medium
PY28QK	Petroleum Distillates (including De-Aromatized)	Medium
Q2DKK4	Isoparaffinic Products	medium C10 - C12
Q4UGL4	Petroleum Distillates (including De-Aromatized)	Medium
QE8TT7	Petroleum Distillates (including De-Aromatized)	Medium
QP389C	Petroleum Distillates (including De-Aromatized)	medium
QP8EZ6	Petroleum Distillates (including De-Aromatized)	Medium C8-C13
QT48QF	Petroleum Distillates (including De-Aromatized)	Light
QV9V76	Petroleum Distillates (including De-Aromatized)	Medium
QZ7CJY	Petroleum Distillates (including De-Aromatized)	medium
R2H736	Petroleum Distillates (including De-Aromatized)	Medium
R82G9U	Petroleum Distillates (including De-Aromatized)	Medium
R9CKJW	Petroleum Distillates (including De-Aromatized)	Medium
RBJVFZ	Petroleum Distillates (including De-Aromatized)	medium
RCFDDV	Petroleum Distillates (including De-Aromatized)	Medium
RFDJ92	Petroleum Distillates (including De-Aromatized)	Medium
RH6QG6	Petroleum Distillates (including De-Aromatized)	medium
RMXQY7	Petroleum Distillates (including De-Aromatized)	Medium
RPMXJ3	Petroleum Distillates (including De-Aromatized)	medium
RUUP7L	Petroleum Distillates (including De-Aromatized)	Medium
RV7CXA	Petroleum Distillates (including De-Aromatized)	Medium
RWGDFZ	Petroleum Distillates (including De-Aromatized)	Medium
RWZ7K6	Petroleum Distillates (including De-Aromatized)	Medium
TCB7Z2	Petroleum Distillates (including De-Aromatized)	Medium (de-aromatized)
TEUBGC	Petroleum Distillates (including De-Aromatized)	MEDIUM
TMCJ8U	Petroleum Distillates (including De-Aromatized)	medium
TQDKAC	Naphthenic Paraffinic Products	MEDIUM
TXANU3	Petroleum Distillates (including De-Aromatized)	medium
TZHNK2	Petroleum Distillates (including De-Aromatized)	Medium
U6MYGZ	Petroleum Distillates (including De-Aromatized)	Medium
U7HEEQ	Petroleum Distillates (including De-Aromatized)	MEDIUM
U9CZ8G	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
UBFVNY	Petroleum Distillates (including De-Aromatized)	Medium
UBW2W3	Petroleum Distillates (including De-Aromatized)	medium
UPD8YN	Petroleum Distillates (including De-Aromatized)	medium
UPXH34	Petroleum Distillates (including De-Aromatized)	medium
UQ63LW	Petroleum Distillates (including De-Aromatized)	Medium
UWDLNW	Petroleum Distillates (including De-Aromatized)	Medium
V6PVU4	Petroleum Distillates (including De-Aromatized)	Medium
V894NX	Petroleum Distillates (including De-Aromatized)	Medium
VEB7YP	Petroleum Distillates (including De-Aromatized)	Medium
VHT7GQ	Petroleum Distillates (including De-Aromatized)	Medium
VJ6Z2W	Petroleum Distillates (including De-Aromatized)	medium
VLU8LU	Petroleum Distillates (including De-Aromatized)	Medium
VM8WN7	Petroleum Distillates (including De-Aromatized)	Medium
VQPW78	Petroleum Distillates (including De-Aromatized)	Medium
VTPPZ7	Petroleum Distillates (including De-Aromatized)	Medium
VXJBKD	Petroleum Distillates (including De-Aromatized)	
VZ6YYY	Petroleum Distillates (including De-Aromatized)	Medium
W24DAX	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillate
W8Q98V	Petroleum Distillates (including De-Aromatized)	medium
W9J3PZ	Petroleum Distillates (including De-Aromatized)	medium
WCFR2Y	Petroleum Distillates (including De-Aromatized)	Medium
WK93CU	Petroleum Distillates (including De-Aromatized)	Medium
WKF3KB	Naphthenic Paraffinic Products	medium
WTVWNJ	Petroleum Distillates (including De-Aromatized)	Medium
WZP42X	Petroleum Distillates (including De-Aromatized)	Medium
X39MEZ	Petroleum Distillates (including De-Aromatized)	Medium
X4L8CG	Petroleum Distillates (including De-Aromatized)	Medium
XBXB9H	Petroleum Distillates (including De-Aromatized)	Medium
XDPALF	Petroleum Distillates (including De-Aromatized)	medium
XFEF7D	Petroleum Distillates (including De-Aromatized)	Medium
XJWPC7	Petroleum Distillates (including De-Aromatized)	Medium
XLHHAR	Petroleum Distillates (including De-Aromatized)	Medium
XN9L3Y	Petroleum Distillates (including De-Aromatized)	Medium
XNENZK	Petroleum Distillates (including De-Aromatized)	Medium
XPGXFU	Petroleum Distillates (including De-Aromatized)	Medium
XUYXXV	Petroleum Distillates (including De-Aromatized)	Medium
XZ4W9K	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
Y4HYQB	Naphthenic Paraffinic Products	MEDIUM
Y7LRK9	Naphthenic Paraffinic Products	medium
YCFENV	Petroleum Distillates (including De-Aromatized)	Medium
YQRZ4E	Petroleum Distillates (including De-Aromatized)	Medium
YRMFHW	Petroleum Distillates (including De-Aromatized)	Medium
YUWQAU	Petroleum Distillates (including De-Aromatized)	Medium Distillate
ZZYWMB	Petroleum Distillates (including De-Aromatized)	Medium
Z6AXWL	Petroleum Distillates (including De-Aromatized)	Medium (De-aromatized)
Z6L4MV	Petroleum Distillates (including De-Aromatized)	Medium
ZGHXD8	Petroleum Distillates (including De-Aromatized)	medium (C8-C12)
ZGLQZL	Petroleum Distillates (including De-Aromatized)	medium (de-aromatised)
ZJ8JQV	Petroleum Distillates (including De-Aromatized)	C9 - C12 (Medium)
ZNZLRA	Petroleum Distillates (including De-Aromatized)	Medium
ZPEQTT	Petroleum Distillates (including De-Aromatized)	Medium
ZVGW7A	Petroleum Distillates (including De-Aromatized)	Medium
ZWWE7V	Petroleum Distillates (including De-Aromatized)	Medium

Response Summary		Total Participants: 309
<b>Item 1: Class</b>		
Petroleum Distillates (including De-Aromatized)	292 (94.5%)	Totals may add up to more than the total number of participants because participants can report multiple ignitable substance classes detected.
Naphthenic Paraffinic Products	15 (4.9%)	
Isoparaffinic Products	1 (0.3%)	
Others - Miscellaneous	1 (0.3%)	

# Ignitable Liquid Identification

*Indicate the ASTM E 1618-14 class or classes for any ignitable substances detected in the submitted items.*

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
2673KT	Isoparaffinic Products	Medium
26MAPB	Isoparaffinic Products	Medium
28YRAG	Isoparaffinic Products	medium
2DZ43R	Isoparaffinic Products	Medium
2FJBV3	Isoparaffinic Products	Medium
2TTWET	Isoparaffinic Products	Medium
32JKZM	Isoparaffinic Products	
39FNJT	Isoparaffinic Products	medium
39GJ73	Isoparaffinic Products	Medium
3DBCKR	Isoparaffinic Products	medium
3EKGWU	Isoparaffinic Products	Medium
3JEHVN	Isoparaffinic Products	Medium
3L4R44	Isoparaffinic Products	Medium
3NUQNU	Isoparaffinic Products	medium
3TRCBQ	Isoparaffinic Products	Medium
3ULX6G	Isoparaffinic Products	Medium
3UV9FT	Isoparaffinic Products	Medium range
46GJRR	Isoparaffinic Products	Medium
46YECE	Naphthenic Paraffinic Products	Medium
488MKY	Isoparaffinic Products	Medium
4L2ARQ	Isoparaffinic Products	Medium
4LQ86R	Isoparaffinic Products	Medium
4NRDKX	Isoparaffinic Products	Medium
4QEZ9E	Isoparaffinic Products	medium isoparaffinic product
4R79ZV	Isoparaffinic Products	Medium
4RBF6G	Isoparaffinic Products	Medium
4UF6NK	No Ignitable Liquid(s) Detected	
4W6PDP	Isoparaffinic Products	medium
4YDF3T	Isoparaffinic Products	Medium
6DNKMQ	Isoparaffinic Products	Medium
6FLC6N	Isoparaffinic Products	Medium
6LWG7N	Isoparaffinic Products	Medium
6N3TZH	Isoparaffinic Products	Medium
6WGTFF	Isoparaffinic Products	Medium
6YB3ZH	Isoparaffinic Products	Medium
72AZNF	Isoparaffinic Products	Medium
7336RM	Isoparaffinic Products	medium
7A2KNM	Isoparaffinic Products	medium
7F4NJM	Isoparaffinic Products	Medium

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
7G6AJ9	Isoparaffinic Products	medium
7M9DA8	Isoparaffinic Products	Medium
7N32UN	Isoparaffinic Products	Medium
7NLY9A	Isoparaffinic Products	Medium
7ULEHP	Isoparaffinic Products	Medium
7UPWPZ	Isoparaffinic Products	Medium
7UQLVH	Isoparaffinic Products	Medium
7VNWT8	Isoparaffinic Products	Medium
7VWF9W	Others - Miscellaneous	Light (C4-C9)
7WBK3L	Isoparaffinic Products	Medium
7Y4FZF	No Ignitable Liquid(s) Detected	
7ZR8GT	Isoparaffinic Products	Medium
84V6WD	Isoparaffinic Products	
8B6REU	Isoparaffinic Products	Medium
8DJ67V	Isoparaffinic Products	Medium
8HRDMZ	Isoparaffinic Products	Medium
8K6QKA	Isoparaffinic Products	Medium
8NDJ7T	Isoparaffinic Products	Medium
8VH3PR	Isoparaffinic Products	Medium
8YV8WK	Isoparaffinic Products	Medium
8Z9LKW	Isoparaffinic Products	Medium
92G7PA	Isoparaffinic Products	Medium
93A2CH	Isoparaffinic Products	Medium
948CA7	Isoparaffinic Products	Medium
96YBKX	Isoparaffinic Products	medium
9AVT8Q	Isoparaffinic Products	Medium
9B6VTP	Isoparaffinic Products	Medium
9BKBUJ	Naphthenic Paraffinic Products	Medium
9FUNFQ	Isoparaffinic Products	
9JN4K	Isoparaffinic Products	medium
9RV3KV	Petroleum Distillates (including De-Aromatized)	Medium
9T6UVW	Isoparaffinic Products	Medium
9W644D	Isoparaffinic Products	Medium
9WAD4Q	Isoparaffinic Products	Medium
9X2E22	Isoparaffinic Products	Medium
9XZVQK	Isoparaffinic Products	Medium (C9-C12)
9YBNRD	Isoparaffinic Products	Medium
9Z6AK6	Isoparaffinic Products	Medium
9ZN66U	Isoparaffinic Products	Medium
A6HC6F	Isoparaffinic Products	Medium
A7CFGM	Isoparaffinic Products	Medium
A9CC3P	Isoparaffinic Products	medium

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
A9JD9J	Naphthenic Paraffinic Products	Medium
AEJW88	Isoparaffinic Products	medium
AJ7EWK	Isoparaffinic Products	Medium
AQFZGT	Isoparaffinic Products	medium isoparaffinic
AWXHMQ	Isoparaffinic Products	medium
AXY7CE	No Ignitable Liquid(s) Detected	
B689PT	Isoparaffinic Products	Medium
B9CQ9G	Isoparaffinic Products	medium
BBB82J	Isoparaffinic Products	Heavy (C9 - C20+)
BD6RDF	Isoparaffinic Products	Medium
BK9W3E	Isoparaffinic Products	Medium
BLFANM	Isoparaffinic Products	medium
BNLG8E	Isoparaffinic Products	Medium
BUT6KG	Isoparaffinic Products	medium
BUWFT7	Isoparaffinic Products	Medium
BV7QJH	Isoparaffinic Products	medium
C4C24T	Isoparaffinic Products	Medium
CEDL7L	Isoparaffinic Products	Medium
CG3TQH	Isoparaffinic Products	
CHEMAP	Isoparaffinic Products	Medium
CNXXFD	Isoparaffinic Products	Medium
CRPHVJ	Isoparaffinic Products	Medium
CUP39G	Isoparaffinic Products	Medium
CV2QY9	Isoparaffinic Products	Medium
CWX4JF	Isoparaffinic Products	Medium
CXARYL	Isoparaffinic Products	Medium
CY4HZU	Isoparaffinic Products	Medium Isoparaffinic Product
D4N8RG	Isoparaffinic Products	Medium (C10 - C12)
DAXDDF	Isoparaffinic Products	Medium
DBQ8D6	Naphthenic Paraffinic Products	Medium
DCMMLV	Isoparaffinic Products	Medium
DLP3BZ	Isoparaffinic Products	Medium
DM62T6	Isoparaffinic Products	Medium
DNE79E	Isoparaffinic Products	Medium
DUZBUP	Isoparaffinic Products	medium
DV2U8P	Isoparaffinic Products	Medium
EC47X7	Isoparaffinic Products	Medium
ECZJHD	Isoparaffinic Products	medium
EEPZNF	Isoparaffinic Products	Medium
EGAZGF	Isoparaffinic Products	Medium in the range C10 to C12
EM226A	Isoparaffinic Products	Medium
EMVTTF	Isoparaffinic Products	Medium

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
EP9GEZ	Isoparaffinic Products	Medium
EPKZDC	Isoparaffinic Products	Medium
EPQ9P7	Isoparaffinic Products	Medium (C8-C12)
ERAGEX	No Ignitable Liquid(s) Detected	
EU36K9	Isoparaffinic Products	Medium
F2G86F	Isoparaffinic Products	Medium
F4MYTM	Isoparaffinic Products	Medium
F7C7DJ	Isoparaffinic Products	medium
FB8XKF	Isoparaffinic Products	Medium
FCFAWQ	Isoparaffinic Products	Medium
FJZBGA	Isoparaffinic Products	
FKB8PK	Isoparaffinic Products	Medium
FRCEDZ	Isoparaffinic Products	Medium
FRCH36	Isoparaffinic Products	Medium
FTZPGN	Isoparaffinic Products	Medium
FXHYUD	Isoparaffinic Products	Medium
FYNMNA	Isoparaffinic Products	MEDIUM
FZJ9HZ	Isoparaffinic Products	Medium
G74NJD	Isoparaffinic Products	Medium
G7RPTA	Isoparaffinic Products	medium
G9TWQT	Isoparaffinic Products	medium
GBVV47	Isoparaffinic Products	Medium
GEFUBA	Isoparaffinic Products	
GFD4FD	Isoparaffinic Products	Medium
GFQRPR	Isoparaffinic Products	Medium
GKPXAN	Isoparaffinic Products	Medium
GMW8PZ	Isoparaffinic Products	MEDIUM
GN3QGJ	Others - Miscellaneous	Medium
GZHQ2G	Isoparaffinic Products	Medium
H6UPEV	Isoparaffinic Products	Medium
H7HJF6	Isoparaffinic Products	Medium
H8DVL7	Isoparaffinic Products	medium
H9BECD	Isoparaffinic Products	Medium
HEWENK	Isoparaffinic Products	medium
HG3L6R	Petroleum Distillates (including De-Aromatized)	Medium C8-C13
HGLK9G	Isoparaffinic Products	Medium
HRKF7C	Isoparaffinic Products	Medium
HTQWAA	Naphthenic Paraffinic Products	MEDIUM RANGE
HVL9FB	Isoparaffinic Products	Medium
J9KR7Z	Isoparaffinic Products	Medium
JFHGRB	Isoparaffinic Products	Medium
JJ2EHM	Isoparaffinic Products	Medium



TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
JJ49WL	Isoparaffinic Products	Medium
JKJEMX	Isoparaffinic Products	Medium
JLEYE4	Isoparaffinic Products	medium
JRGXY2	Isoparaffinic Products	MEDIUM
JRZ4YQ	Isoparaffinic Products	Medium
JUN9ZB	Isoparaffinic Products	Medium
JXRZBW	Isoparaffinic Products	Medium
K3UQTT	Isoparaffinic Products	Medium
K6KRWV	Isoparaffinic Products	Medium Range
K828WM	Isoparaffinic Products	Medium
K9FJT8	Isoparaffinic Products	Medium
KBPK3K	Isoparaffinic Products	Medium to heavy
KGE2CP	Isoparaffinic Products	Heavy
KGRT3L	Isoparaffinic Products	Medium
KJWLWJ	Isoparaffinic Products	medium
KKYX7A	Isoparaffinic Products	Medium
KMZC7K	Isoparaffinic Products	Medium (C8-C13)
KPR7AF	Isoparaffinic Products	Medium
KRWR49	Isoparaffinic Products	Medium
KTL6FY	Isoparaffinic Products	Medium
KXYQN7	Isoparaffinic Products	Medium
L2YF9Q	Isoparaffinic Products	Medium
L4NK64	Isoparaffinic Products	Medium
LP4624	Isoparaffinic Products	medium
LPLGDH	Petroleum Distillates (including De-Aromatized)	Medium
LVRTUN	Isoparaffinic Products	Medium
M9UQ48	Isoparaffinic Products	Medium
MCA9DB	Isoparaffinic Products	Medium
MDNNTX	Isoparaffinic Products	medium
MHYQP2	Isoparaffinic Products	Medium
MJGM8T	Isoparaffinic Products	Medium Range
ML2JRD	Isoparaffinic Products	Medium
MLY49K	Isoparaffinic Products	Medium
MN7E6N	Isoparaffinic Products	Medium
N2CK29	Isoparaffinic Products	Medium
N727N2	Isoparaffinic Products	Medium
N76PUC	Isoparaffinic Products	Medium
N9WNCW	Isoparaffinic Products	Medium
NCM9PE	Isoparaffinic Products	medium
NEVCL9	Isoparaffinic Products	Medium
NJNCZ4	Isoparaffinic Products	Medium
NM9FC8	Isoparaffinic Products	Medium

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
NQ7T6Y	Isoparaffinic Products	Medium
NQMA3F	No Ignitable Liquid(s) Detected	
NTULZ2	Isoparaffinic Products	Medium
NY2R3Z	Isoparaffinic Products	Medium
P2MXUC	Isoparaffinic Products	medium-range
P3J9TJ	Isoparaffinic Products	Medium
P4FVEM	Isoparaffinic Products	Medium
P6AG7T	Isoparaffinic Products	Medium
P6PULP	Isoparaffinic Products	medium
P72JT9	Isoparaffinic Products	Medium
P7X2Q4	Isoparaffinic Products	medium
P8BPA4	Isoparaffinic Products	Medium
PF4VU4	Isoparaffinic Products	Medium
PHNVXQ	Isoparaffinic Products	Medium
PPCLH2	Naphthenic Paraffinic Products	Medium
PR2ZW3	Isoparaffinic Products	Medium
PTAWH8	Isoparaffinic Products	Medium
PXMTBN	Isoparaffinic Products	Medium
PY28QK	Isoparaffinic Products	Medium
Q2DKK4	Isoparaffinic Products	medium C10 - C12
Q4UGL4	Isoparaffinic Products	Medium
QE8TT7	Isoparaffinic Products	Medium
QP389C	Isoparaffinic Products	medium
QP8EZ6	Isoparaffinic Products	Medium C8-C13
QT48QF	Isoparaffinic Products	Medium
QV9V76	Isoparaffinic Products	Medium
QZ7CJY	Isoparaffinic Products	medium
R2H736	Isoparaffinic Products	Medium
R82G9U	Isoparaffinic Products	Medium
R9CKJW	Isoparaffinic Products	Medium
RBJVFZ	Isoparaffinic Products	medium
RCFDDV	Isoparaffinic Products	Medium
RFDJ92	Isoparaffinic Products	Medium
RH6QG6	Isoparaffinic Products	medium
RMXQY7	No Ignitable Liquid(s) Detected	
RPMXJ3	Isoparaffinic Products	medium
RUUP7L	Isoparaffinic Products	Medium
RV7CXA	Isoparaffinic Products	Medium
RWGDFZ	Isoparaffinic Products	Medium
RWZ7K6	Isoparaffinic Products	Medium
TCB7Z2	Isoparaffinic Products	Medium
TEUBGC	Isoparaffinic Products	MEDIUM

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
TMCJ8U	Isoparaffinic Products	medium
TQDKAC	Isoparaffinic Products	MEDIUM
TXANU3	Isoparaffinic Products	medium
TZHNK2	Isoparaffinic Products	Medium
U6MYGZ	Isoparaffinic Products	Medium
U7HEEQ	Isoparaffinic Products	MEDIUM
U9CZ8G	Isoparaffinic Products	Medium
UBFVNY	Isoparaffinic Products	Medium
UBW2W3	Isoparaffinic Products	medium
UPD8YN	Isoparaffinic Products	medium
UPXH34	Isoparaffinic Products	medium
UQ63LW	Isoparaffinic Products	Medium
UWDLNW	Isoparaffinic Products	Medium
V6PVU4	Isoparaffinic Products	Medium
V894NX	Isoparaffinic Products	Medium
VEB7YP	Isoparaffinic Products	Medium
VHT7GQ	Isoparaffinic Products	Medium
VJ6Z2W	Isoparaffinic Products	medium
VLU8LU	Isoparaffinic Products	Medium
VM8WN7	Isoparaffinic Products	Medium
VQPW78	Isoparaffinic Products	Medium
VTPZ7	Isoparaffinic Products	Medium
VXJBKD	Petroleum Distillates (including De-Aromatized)	
VZ6YYY	Isoparaffinic Products	Medium
W24DAX	Isoparaffinic Products	
W8Q98V	Isoparaffinic Products	medium
W9J3PZ	Isoparaffinic Products	medium
WCFR2Y	Isoparaffinic Products	Medium
WK93CU	Isoparaffinic Products	Medium
WKF3KB	Isoparaffinic Products	medium
WTVWNJ	Isoparaffinic Products	Medium
WZP42X	Isoparaffinic Products	Medium
X39MEZ	Isoparaffinic Products	Medium
X4L8CG	Isoparaffinic Products	Medium
XBXB9H	Isoparaffinic Products	Medium
XDPALF	Isoparaffinic Products	medium
XFEF7D	Isoparaffinic Products	Medium
XJWPC7	Isoparaffinic Products	Medium
XLHHAR	Isoparaffinic Products	Medium
XN9L3Y	Isoparaffinic Products	Medium
XNENZK	No Ignitable Liquid(s) Detected	
XPGXFU	Isoparaffinic Products	Medium

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
XUYXXV	Isoparaffinic Products	Medium
XZ4W9K	Isoparaffinic Products	Medium
Y4HYQB	Isoparaffinic Products	MEDIUM
Y7LRK9	Isoparaffinic Products	medium
YCFENV	Isoparaffinic Products	Medium
YQRZ4E	Isoparaffinic Products	Medium
YRMFHW	Isoparaffinic Products	Medium
YUWQAU	Isoparaffinic Products	
YZYWMB	Isoparaffinic Products	Medium
Z6AXWL	Isoparaffinic Products	Medium
Z6L4MV	Isoparaffinic Products	Medium
ZGHXD8	No Ignitable Liquid(s) Detected	
ZGLQZL	Isoparaffinic Products	medium
ZJ8JQV	Isoparaffinic Products	C10 - C12 (Medium)
ZNZLRA	Isoparaffinic Products	Medium
ZPEQTT	Isoparaffinic Products	Medium
ZVGW7A	Isoparaffinic Products	Medium
ZWWE7V	Isoparaffinic Products	Medium

Response Summary		Total Participants: 309
<b>Item 2: Class</b>		
Isoparaffinic Products	289 (93.5%)	Totals may add up to more than the total number of participants because participants can report multiple ignitable substance classes detected.
No Ignitable Liquid(s) Detected	8 (2.6%)	
Naphthenic Paraffinic Products	6 (1.9%)	
Petroleum Distillates (including De-Aromatized)	4 (1.3%)	
Others - Miscellaneous	2 (0.6%)	

# Recovery Techniques

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated (°C)			
2673KT	✓			✓ 60	18 hours	Carbon/Charcoal	Carbon Disulfide
26MAPB	✓			✓ 60	16 hours	Carbon/Charcoal	CS2
28YRAG	✓			✓ 80	12 hours	Carbon/Charcoal	CS2
<b>Other Recovery Technique:</b> pentane extraction for Items 2 and 4 after the charcoal strip adsorption.							
2DZ43R		✓		✓ 95	15 minutes	Carbon/Charcoal	CS2
2FJBV3	✓			✓ 80	16 hours	Carbon/Charcoal	Carbon disulfide
2TTWET	✓			✓ 60	16 hrs	Carbon/Charcoal	carbon disulfide/toluene
32JKZM	✓			✓ 65	16:55	Carbon/Charcoal	CS2
39FNJT	✓			✓ 40	10 min	SPME (DVB/CAR/PDMS)	Thermal
39GJ73	✓			✓ 74	12 hours	Carbon/Charcoal	
3DBCKR	✓			✓ 69	16 hours	Carbon/Charcoal	carbon disulfide
3EKGWU	✓			✓ 66	16 hours 20 minutes	Carbon/Charcoal	Carbon Disulfide
3JEHVN	✓			✓ ~80	overnight	Carbon/Charcoal	CS2/C26
3L4R44	✓			✓ 79	16 hours	Carbon/Charcoal	CS2
3NUQNU	✓			✓ 90	45	Carbon/Charcoal	carbon sulphide (CS2)
3TRCBQ	✓			✓ 60	16 hours	Carbon/Charcoal	CS2
3ULX6G	✓			✓ 75	4.5 hours	Carbon/Charcoal	Carbon Disulfide
3UV9FT	✓			✓ 65	16 hours	Carbon/Charcoal	Dichloromethane
46GJRR	✓			✓ 65	16 Hours	Carbon/Charcoal	CS2
46YECE	✓			✓ 65	16 hrs	Carbon/Charcoal	CS2
488MKY	✓			✓ 65	17 hours	Carbon/Charcoal	carbon disulfide
4L2ARQ	✓			✓ 70	16 Hours	Carbon/Charcoal	Methylene Chloride
4LQ86R	✓			✓ 70	16 hours	Carbon/Charcoal	Dichloromethane
4NRDKX	✓			✓ 65	overnight	Carbon/Charcoal	Carbon disulfide
4QEZ9E	✓			✓ 110	30 mins	Tenax	Thermal
4R79ZV	✓			✓ 80	2 hours	Carbon/Charcoal	Carbon disulfide
4RBF66	✓			✓ 90	1h00	TENAX	Thermal
4UF6NK		✓		✓ 100	10min		Thermal
4W6PDP	✓			✓ 65	16 Hours	Carbon/Charcoal	Carbon Disulfide

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption	
	Passive	Dynamic	Rm Temp	Heated (°C)				
4YDF3T	✓			✓	75	19.5 hours	Carbon/Charcoal	Carbon Disulfide
6DNKMQ	✓			✓	80	4 h	Carbon/Charcoal	Carbondisulfide
<b>Other Recovery Technique:</b> Direct Headspace								
6FLC6N	✓			✓	~60	16 hrs	Carbon/Charcoal	CS2
6LWG7N	✓			✓	66	16.5 hours	Carbon/Charcoal	Carbon disulfide
6N3TZH	✓			✓	80	2 Hours	Carbon/Charcoal	Carbon Disulfide
6WGTFF	✓			✓	70	16 Hours	Carbon/Charcoal	Carbon Disulfide
6YB3ZH	✓		✓	✓	60	2 and 16 hours	Tenax TA	Thermal
72AZNF		✓	✓				Tenax GR	Thermal
7336RM	✓			✓	70	16-18 hours	Carbon/Charcoal	carbon disulfide
7A2KNM	✓			✓	80	16 hours	Carbon/Charcoal	carbon disulfide
7F4NJM	✓			✓	70	~18 hrs	Carbon/Charcoal	CS2
7G6AJ9	✓			✓	60	16 hours	Carbon/Charcoal	Carbon disulfide
7M9DA8	✓			✓	70	4 hours	Carbon/Charcoal	Carbon disulfide
7N32UN		✓		✓	92	20 min	Carbon/Charcoal	carbon disulfide
<b>Other Recovery Technique:</b> heated headspace								
7NLY9A	✓			✓	60	17 hours	Carbon/Charcoal	Carbon disulfide
7ULEHP	✓			✓	80	16 hr	Carbon/Charcoal	CS2
7UPWPZ		✓		✓	120		Tenax	
7UQLVH	✓			✓	~80	~16 hrs	Carbon/Charcoal	CS2
7VNWT8								
<b>Other Recovery Technique:</b> HEADSPACE CG/MS								
7VWF9W	✓			✓	60	16 Hours	Carbon/Charcoal	Pentane
7WBK3L	✓			✓	80	16 hours	Carbon/Charcoal	Carbon Disulfide
7Y4FZF	✓			✓	60	16 hours	Carbon/Charcoal	Dichloromethane
7ZR8GT	✓			✓	80	2 hours	Carbon/Charcoal	carbon disulfide
84V6WD	✓			✓	80	18 hours	Carbon/Charcoal	Carbon disulfide
8B6REU	✓			✓	79	17 hours	Carbon/Charcoal	
8DJ67V	✓		✓	✓	65	approximately 16 hours	Carbon/Charcoal	carbon disulfide
8HRDMZ	✓				67	17 hours	Carbon/Charcoal	Carbon Disulfide
8K6QKA	✓			✓	60	~ 17 hrs	Carbon/Charcoal	CS2
8NDJ7T	✓			✓	80	4 hours	Carbon/Charcoal	Pentane
<b>Other Recovery Technique:</b> Headspace								
8VH3PR	✓			✓	80	16 hours	Carbon/Charcoal	carbon disulfide

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated (°C)			
8YV8WK	✓			✓ 80	16 hours	Carbon/Charcoal	Carbon disulfide
8Z9LKW	✓			66	16	Carbon/Charcoal	
92G7PA	✓			✓ 80	2 hours	Carbon/Charcoal	CS2
93A2CH	✓			✓ 70	20 Hours	Carbon/Charcoal	Carbon Disulfide
948CA7	✓			✓ 60	16 hours	Carbon/Charcoal	carbon disulfide
96YBKX	✓			✓ 69	17 hours	Carbon/Charcoal	Carbon Disulfide
9AVT8Q	✓			✓ 70	12-16 hours	Carbon/Charcoal	Carbon Disulfide
9B6VTP	✓			✓ 60	16 hours	Carbon/Charcoal	carbon disulfide
9BKBUJ	✓			✓ 60	16 hrs	Carbon/Charcoal	Pentane
9FUNFQ	✓			✓ 80	2 hours (heating process)	Carbon/Charcoal	Pentane, Carbon Disulfide
9JJN4K	✓			✓ 60	16 hours	Carbon/Charcoal	CS2
9RV3KV	✓			✓ 100	40 mins	Tenax	Pentane
9T6UWW	✓		✓	✓ 60	16 hours	Carbon/Charcoal	carbon disulfide (CS2)
9W644D	✓			✓ 110	45'		n-pentan
9WAD4Q	✓				16 hours	Carbon/Charcoal	CS2
9X2E22	✓			✓ 130	15 min		
9XZVQK	✓			✓ 69	~ 16 Hrs	Carbon/Charcoal	CS2
9YBNRD	✓			✓ 60		Carbon/Charcoal	Carbon Disulfide
9Z6AK6	✓			✓ 76	4 hours	Carbon/Charcoal	CS2
9ZN66U	✓			✓ 70	16 hours	Carbon/Charcoal	Carbon Disulfide
A6HC6F	✓			✓ 80	6-16 hrs	Carbon/Charcoal	Carbon disulfide
<b>Other Recovery Technique:</b> Heated headspace direct sampling							
A7CFGM	✓			✓ 75	16 hours	Carbon/Charcoal	Carbon disulfide
A9CC3P	✓			✓ 175		Carbon/Charcoal	diethyl ether
A9JD9J	✓			✓ 70	16.5 Hours	Carbon/Charcoal	Carbon Disulfide
AEJW88	✓			✓ 70	17.75hrs	Carbon/Charcoal	CS2
AJ7EWK	✓			✓ 60	16 Hrs	Carbon/Charcoal	CS2
AQFZGT	✓			✓ 65		Carbon/Charcoal	carbon disulfide
AWXHMQ	✓			85		Carbon/Charcoal	cs2
AXY7CE	✓			✓ 65	16 hrs	Carbon/Charcoal	carbon disulfide
B689PT	✓			✓ 66	16	Carbon/Charcoal	Carbon Disulfide

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated (°C)			
B9CQ9G	✓			✓	50	1 minute	Thermal
<b>Other Recovery Technique:</b> SPME - PDMS							
BBB82J	✓			✓	80	8 hours	Carbon/Charcoal
BD6RDF	✓			✓	70	1 min	SPME (75 um Carboxen/Polydimethylsiloxane)
BK9W3E	✓			✓	65	16 hours	Carbon/Charcoal
BLFANM	✓			✓	70	12 hours	Carbon/Charcoal
<b>Other Recovery Technique:</b> Static headspace analysis (both); solvent extraction (Item 2)							
BNLG8E	✓						Carbon/Charcoal
BUT6KG	✓			✓	70	about 17.5 hours	Carbon/Charcoal
BUWFT7	✓			✓	70	150 minutes	Carbon/Charcoal
BV7QJH	✓			✓	77	4 hours	Carbon/Charcoal
C4C24T	✓		✓				SPME DCP
CEDL7L	✓			✓	80	12 hours	Carbon/Charcoal
CG3TQH		✓		✓	90	20 minutes	Carbon/Charcoal
<b>Other Recovery Technique:</b> Heated headspace							
CHEMAP	✓			✓	65	16hrs	Carbon/Charcoal
CNXXFD	✓			✓	80	8 hours	Carbon/Charcoal
CRPHVJ	✓			✓	70	16.5	Carbon/Charcoal, CARBOXEN/PDMS
<b>Other Recovery Technique:</b> SPME - Adsorption 40°C for 20 min, carobxen/pdms fiber exposed for 5 min, thermal desorption							
CUP39G	✓				90	5 hours	Carbon/Charcoal
CV2QY9		✓	✓	✓	130		Tenax
CWX4JF	✓			✓	68	3 hours heated then 8 hours ambient temperature	Carbon/Charcoal
<b>Other Recovery Technique:</b> Headspace (cold)							
CXARYL	✓			✓	80	16 Hours	Carbon/Charcoal
CY4HZU	✓			✓	74	10 hours	Carbon/Charcoal
D4N8RG	✓			✓	80	16 hours	Carbon/Charcoal
DAXDDF	✓			✓	80	8 H	Carbon/Charcoal
DBQ8D6	✓			✓	65		Carbon/Charcoal
DCMMLV	✓			✓	80	15hr	Carbon/Charcoal
DLP3BZ	✓			✓	70	22 hours	Carbon/Charcoal
DM62T6	✓			✓	70	19 hours	Carbon/Charcoal
DNE79E	✓			✓	80	8 hours	Carbon/Charcoal



TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption	
	Passive	Dynamic	Rm Temp	Heated (°C)				
DUZBUP	✓			✓	90	PDMS/CARB		
<b>Other Recovery Technique:</b> SPME								
DV2U8P	✓			✓	~90	16 hours	Carbon/Charcoal	Carbon disulfide
EC47X7	✓		✓	✓	80	3 hours - 2 days	Tenax	
ECZJHD	✓			✓	70	4 hrs	Carbon/Charcoal	Carbon disulfide
EEPZNF	✓		✓	✓	80	1 hour, 15minutes	SPME carbox/pdms	Thermal
EGAZGF	✓			✓	80 and 95	15 min	SPME, 65 µm DVB-PDMS	Thermal
EM226A	✓			✓	80	19	Carbon/Charcoal	carbon disulfide
<b>Other Recovery Technique:</b> Heated headspace sampling for volatiles								
EMVTTF	✓			✓	70			
EP9GEZ	✓			✓	65	16 hrs	Carbon/Charcoal	Carbon Disulfide
EPKZDC	✓			✓	80	16 hours	Carbon/Charcoal	Carbon Disulfide
EPQ9P7		✓		✓	100		Tenax	Thermal
ERAGEX	✓			✓	70	8 hours	Carbon/Charcoal	Carbon disulfide
EU36K9	✓			✓	70	24 hours	activated charcoal tube	Diethyl Ether
F2G86F	✓			✓	70	16.5 hrs	Carbon/Charcoal, Carboxen/PDMS fiber	TCE/Ether, Thermal
<b>Other Recovery Technique:</b> Solid phase microextraction heated at 40 C for 25 minutes								
F4MYTM	✓			✓	65	16 hours	Carbon/Charcoal	CS2
F7C7DJ	✓			✓	65	16 hours	Carbon/Charcoal	carbon disulfide
FB8XKF	✓			✓	~76		Carbon/Charcoal	CS2
FCFAWQ	✓			✓	90			n-pentane
FJZBGA	✓			✓	65		Carbon/Charcoal	carbon disulfide
FKB8PK	✓			✓	80	4 hours	Carbon/Charcoal	Carbon disulfide
FRCEDZ	✓			✓	80		Carbon/Charcoal	n-Pentane
FRCH36	✓		✓			Approximately 24hours	Carbon/Charcoal	DCM
FTZPGN	✓			✓	66	16 hours	Carbon/Charcoal	CS2
FXHYUD	✓			✓	70	15 hours	Carbon/Charcoal	Carbon Disulfide
FYNMNA	✓			✓	80	8H	Carbon/Charcoal	Dichloromethane + Butanol
FZJ9HZ	✓			✓	60	16 hours	Carbon/Charcoal	Carbon disulfide
G74NJD	✓				70	16 hours	Carbon/Charcoal	Carbon Disulfide

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated (°C)			
G7RPTA	✓	✓	✓		15 min	Carbon/Charcoal, SPME(black)	methylene chloride
G9TWQT	✓			✓ 80-100	16hr	Carbon/Charcoal	cs2 (carbon disulfide)
GBV47	✓			✓ 66	16 hours	Carbon/Charcoal	CS2
GEFUBA	✓			✓ 95	24 hr	Carbon/Charcoal	Dichloromethane
GFD4FD	✓			✓ 70	~16 hours	Carbon/Charcoal	Carbon disulfide
<b>Other Recovery Technique:</b> Heated Headspace							
GFQRPR				✓ 50	24	Carbon/Charcoal	Carbon Disulfide
GKPXAN							n-hexane
GMW8PZ	✓			✓ 70	4 HOURS	Carbon/Charcoal	CARBON DISULFIDE
GN3QGJ	✓			✓ 66	16	Carbon/Charcoal	Carbon Disulfide
GZHQ2G	✓			✓ 80	4 hours	Carbon/Charcoal	Pentane
H6UPEV	✓			✓ 60-70	~ 18 hours	Carbon/Charcoal	Carbon Disulfide
H7HJF6	✓			✓ 80	16 hours	Carbon/Charcoal	n-pentane
H8DVL7	✓		✓	✓ 80	1.5hrs	Carbon/Charcoal	CS2
H9BECD	✓			✓ 80	2 hours	Carbon/Charcoal	Carbon disulfide
HEWENK	✓			✓ 65	overnight (~16 hours)	Carbon/Charcoal	CS2
HG3L6R	✓			✓ 70		Carbon/Charcoal	carbondsulfide
<b>Other Recovery Technique:</b> Extraction of the samples with dichloromethane							
HGLK9G	✓			✓ 70	12-16 hours	Carbon/Charcoal	Carbon Disulfide
HRKF7C	✓			✓ 65	16 hours	Carbon/Charcoal	Carbon Disulfide
HTQWAA	✓			✓ 60	16HRS	Carbon/Charcoal	
HVL9FB	✓			✓ 90	5 hours	Carbon/Charcoal	CS2
J9KR7Z	✓			✓ 69	14 hrs	Carbon/Charcoal	Carbon Disulfide
JFHGRB	✓			✓ 62	6 hours	Carbon/Charcoal	Carbon Disulfide
JJ2EHM							Extraction
JJ49WL	✓			✓ 75	12 hours	Carbon/Charcoal	Carbon disulfide
JKJEMX	✓			✓ 60	~ 13 hrs	Carbon/Charcoal	CS2
JLEYE4	✓		✓	✓ 60	2 and 16 hours	TENAX	Thermal
JRGXY2							PENTANE
JRZ4YQ	✓			✓ 60	16 hours	Carbon/Charcoal	Carbon Disulfide
JUN9ZB	✓			✓ 70	~16 hours	Carbon/Charcoal	Carbon disulfide

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated (°C)			
JXRZBW	✓			✓ 80	6 hours	Carbon/Charcoal	CS2
K3UQTT		✓	✓			tenax	Thermal
K6KRWW	✓			✓ 80	2 Hours	Carbon/Charcoal	n-Pentane
K828WM	✓			✓ 90	5.5 hours	Carbon/Charcoal	
K9FJT8				✓ 90	10 min.		Hexane
KBPK3K	✓			✓ 90	10 minutes		
KGE2CP				✓ 90	10 minutes		
KGRT3L		✓		✓ 100		Tenax	Thermal
KJWLWJ	✓		✓	✓ 60	16 hours	Carbon/Charcoal	carbon disulfide
KKYX7A	✓			✓ 70	16.5 hrs	Carbon/Charcoal	Diethyl ether
<b>Other Recovery Technique:</b> SPME for Light Vol., heated 40 deg C, 5 min. Carboxen/PDMS fiber							
KMZC7K				✓ 90			n-Hexane
KPR7AF	✓			✓ 65	16 hours	Carbon/Charcoal	CS2
KRWR49	✓			✓ ~70	~16 hrs	Carbon/Charcoal	Carbon Disulfide (CS2)
<b>Other Recovery Technique:</b> simple heated headspace (~70C for ~15 minutes; ~0.5 mL air sample injected)							
KTL6FY	✓			✓ 75	4 hours	Carbon/Charcoal	Carbon Disulfide
KXYQN7	✓			✓ 60	16 hours	Carbon/Charcoal	Carbon Disulfide
L2YF9Q	✓			✓ 60	16 hours	Carbon/Charcoal	carbon disulfide
L4NK64	✓			✓ 65	15 min	SPME	Thermal
<b>Other Recovery Technique:</b> Direct Solvent Extraction(Diethyl Ether)							
LP4624	✓			✓ 65	CS2	Carbon/Charcoal	
LPLGDH		✓		✓ 100	30 min	Tenax	pentane
LVRTUN	✓			✓ ~70	4 hours	Carbon/Charcoal	Pentane
M9UQ48	✓			✓ 63	5.5 hr	Carbon/Charcoal	CS2
MCA9DB	✓			✓ 80	~16 hours	Carbon/Charcoal	Carbon disulfide
MDNNTX	✓		✓	✓ 85	overnight	Carbon/Charcoal	Dichloromethane, water
MHYQP2	✓			✓ 66	16 hours	Carbon/Charcoal	CS2
MJGM8T		✓		✓ 80	~3 mins	Carbon/Charcoal	Pentane
ML2JRD	✓			✓ 70	12-16 hours	Carbon/Charcoal	Carbon Disulfide
MLY49K	✓			✓ 60	16 hrs	Carbon/Charcoal	CS2
MN7E6N	✓			✓ ~67	4 hrs	Carbon/Charcoal	Pentane
N2CK29	✓			✓ 76	17 hrs	Carbon/Charcoal	Carbon disulfide
N727N2	✓			✓ 60	16 hours	Carbon/Charcoal	CS2

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption	
	Passive	Dynamic	Rm Temp	Heated (°C)				
N76PUC	✓			✓	80	4 Hours	Carbon/Charcoal	Pentane
N9WNCW	✓			✓	50	30 minutes	SPME	Thermal
NCM9PE	✓		✓	✓	80		spme	n-pentane
NEVCL9	✓			✓	80.0	15 hours	Carbon/Charcoal	Carbon disulfide
NJNCZ4	✓			✓	70	16 hours	Carbon/Charcoal	Carbon disulfide
NM9FC8	✓			✓	~65	16 hours	Carbon/Charcoal	Carbon disulfide
NQ7T6Y	✓			✓	80	≈4 hrs	Carbon/Charcoal	CS2 / Toluene
NQMA3F	✓			✓	78	16 hours	Carbon/Charcoal	Carbon Disulfide
NTULZ2	✓			✓	~80	Overnight	Carbon/Charcoal	Carbon disulfide
NY2R3Z	✓			✓	80	18 hours	Carbon/Charcoal	Carbon disulfide
P2MXUC	✓			✓	65	16 hours	Carbon/Charcoal	pentane
P3J9TJ	✓			✓	80	16 hours	Carbon/Charcoal	n-pentane
P4FVEM	✓			✓	70	2 hrs, 15 hrs	Carbon/Charcoal	Carbon Disulfidied
P6AG7T	✓			✓	70	24 hours	activated charcoal tube	Diethyl Ether
P6PULP	✓			✓	65	16 hours	Carbon/Charcoal	Carbon disulfide
P72JT9	✓			✓	70	10 hours	Carbon/Charcoal	Diethyl Ether
<b>Other Recovery Technique:</b> Static Headspace								
P7X2Q4	✓			✓	60	16 hours	Carbon/Charcoal	pentane
P8BPA4		✓		✓	80	20 mins	Carbon/Charcoal	CS2
PF4VU4	✓			✓	80	16 hours	Carbon/Charcoal	CS2
PHNVXQ	✓			✓	65	16 hrs	Carbon/Charcoal	CS2
PPCLH2	✓			✓	80		Carbon/Charcoal	CS2
PR2ZW3	✓		✓	✓	68	8 hours	Carbon/Charcoal	
<b>Other Recovery Technique:</b> headspace at room temperature								
PTAWH8	✓			✓	66	2 hours 10 minutes	Carbon/Charcoal	CS2
PXMTBN	✓			✓	70	15 hours	Carbon/Charcoal	Carbon Disulfide
PY28QK	✓			✓	70		Tenax TA	Thermal
<b>Other Recovery Technique:</b> Direct HS								
Q2DKK4								
Q4UGL4	✓			✓	70	16 hours	Carbon/Charcoal	CS2
<b>Other Recovery Technique:</b> Heated Headspace 70C for 15 minutes								
QE8TT7	✓			✓	66	16 hours	Carbon/Charcoal	Carbon disulfide (CS2)
QP389C	✓			✓	80	15HR	Carbon/Charcoal	pentane

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption	
	Passive	Dynamic	Rm Temp	Heated (°C)				
QP8EZ6	✓		✓	✓	75	17 hours	Carbon/Charcoal	Carbon Disulfide
QT48QF				✓	90	10 minutes		Thermal
QV9V76	✓			✓	70	2 hours	Carbon/Charcoal	Carbon Disulfide
QZ7CJY	✓			✓	60	~16 hours	Carbon/Charcoal	CS2
R2H736	✓			✓	65	16 hours	Carbon/Charcoal	Carbon Disulfide
R82G9U	✓			✓	60	16 hours	Carbon/Charcoal	Carbon Disulfide
R9CKJW	✓			✓	80	18 hours	Carbon/Charcoal	Carbon Disulfide
RBJVFZ	✓			✓	65	16 hours	Carbon/Charcoal	carbon disulfide
RCFDDV	✓			✓	50	8-18 hrs	Carbon/Charcoal	CS2
RFDJ92			✓	✓	90		Tenax	Thermal
RH6QG6	✓			✓	80	17 hours (overnight)	Carbon/Charcoal	carbon disulfide
RMXQY7	✓			✓	60	16 hours	Carbon/Charcoal	CS2
RPMXJ3	✓			✓	71		Carbon/Charcoal	Carbon Disulfide
RUUP7L	✓			✓	76		Carbon/Charcoal	CS2
RV7CXA	✓				79		Carbon/Charcoal	CS2
RWGDFZ	✓			✓	78	~15 hrs	Carbon/Charcoal	CS2
RWZ7K6	✓			✓	~68	16 hours	Carbon/Charcoal	Carbon Disulfide
TCB7Z2	✓			✓	62	Approximately 15 hours	Carbon/Charcoal	Pentane
TEUBGC	✓			✓	80	10	SPME(CARBOXEN -PDMS)	
TMCJ8U	✓		✓			10 minutes	SPME	Thermal
<b>Other Recovery Technique:</b> heated 95°C head space								
TQDKAC								N-PENTANE
TXANU3	✓			✓	90	16 hours	Carbon/Charcoal	CS2
TZHnk2	✓			✓	70	16.5hrs	Carbon/Charcoal	Diethyl Ether
<b>Other Recovery Technique:</b> SPME-heated @ 40C for 30mins, exposed fiber (75um Carboxen/PDMS) for 5mins, desorption: Thermal								
U6MYGZ	✓			✓	90	30 min	SPME (carboxen/PDMS)	Thermal
U7HEEQ								
<b>Other Recovery Technique:</b> SIMPLE HEADSPACE EXTRACTION AND SOLVENT EXTRACTION								
U9CZ8G	✓			✓	80			
UBFVNY	✓			✓	80		Tenax TA	Thermal
UBW2W3	✓			✓	74-75	18 hr 9 min	Carbon/Charcoal	carbon disulfide
UPD8YN	✓			✓	77	24 hrs	Carbon/Charcoal	carbon disulfide

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Rm Temp	Heated (°C)	Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic							
UPXH34	✓		✓	✓	60	~ 16 hours heated, ~ 24 hours room temp	Carbon/Charcoal	CS2	
UQ63LW	✓			✓	70	18.5 hours	Carbon/Charcoal	CS2	
UWDLNW	✓		✓			5 min	SPME	Thermal	
<b>Other Recovery Technique:</b> solvent extraction									
V6PVU4	✓			✓	80	16 hours	Carbon/Charcoal	Carbon disulfide	
V894NX	✓			✓	70	3 hours	Carbon/Charcoal	Pentane	
VEB7YP	✓			✓	70	4 hours (Item 1); 16 hours (Item 2)	Carbon/Charcoal	Carbon Disulfide	
VHT7GQ	✓			✓	60	16 hours	Carbon/Charcoal	carbon disulfide	
VJ6Z2W	✓			✓	~60	~16 hrs.	Carbon/Charcoal	Carbon Disulfide	
VLU8LU	✓			✓	60	20 min	SPME	Thermal	
VM8WN7	✓			✓	65	17 hours	Carbon/Charcoal	CS2	
VQPW78	✓				~90	~16 hours	Carbon/Charcoal	CS2	
VTPZ7	✓			✓	65	16 hr (Ex 2), 4 hr (Ex 1)	Carbon/Charcoal	CS2	
VXJBKD		✓		✓	90		carbotrap / carbopack	Thermal	
VZ6YYY	✓			✓	60	~14.5 hours	Carbon/Charcoal	(1) 5%CS2 in pentane (2)Toluene	
W24DAX		✓		✓	92	20 min	Carbon/Charcoal	Carbon Disulfide	
<b>Other Recovery Technique:</b> Heated Headspace - Alcohol analysis									
W8Q98V	✓			✓	60	16 hours	Carbon/Charcoal	carbon disulfide	
W9J3PZ	✓	✓	✓	✓	80		SPME	n-hexon	
WCFR2Y	✓			✓	80	16 hours	Carbon/Charcoal	CS2	
WK93CU	✓			✓	80	16 hours	Carbon/Charcoal	Carbon Disulfide	
WKF3KB				✓	90	10 minute		Thermal	
WTVWNJ	✓			✓	63	~16 hrs	Carbon/Charcoal	CS2	
WZP42X	✓			✓	65	~16 hours	Carbon/Charcoal	Carbon Disulfide (CS2)	
X39MEZ	✓			✓	80	16hrs	Carbon/Charcoal	Carbon Disulfide	
X4L8CG	✓			✓	60	Approx. 17 hrs	Carbon/Charcoal	CS2	
XBXB9H	✓			✓	65	16 h	Carbon/Charcoal	CS2	
XDPALF	✓			✓	65	6	Carbon/Charcoal	CS2	
XFEF7D		✓		✓	90	20 minutes	Carbon/Charcoal	Carbon DiSulfide	
XJWPC7	✓			✓	66	16 hours	Carbon/Charcoal	CS2	

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp		Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated (°C)			
XLHHAR	✓			✓ 65		Carbon/Charcoal, SPME	Thermal
<b>Other Recovery Technique:</b> SPME							
XN9L3Y	✓			✓ 80	16 hours	Carbon/Charcoal	Carbon Disulfide
XNENZK	✓		✓		24 hours	Carbon/Charcoal	Carbon Disulfide
XPGXFU	✓			✓ 80	16 hours	Carbon/Charcoal	Carbon disulfide
XUYXXV		✓		✓ 90	2 minutes	TENAX	Thermal
XZ4W9K	✓			✓ 78	2 hours	Carbon/Charcoal	Carbon disulfide
Y4HYQB	✓			✓ 90	10 MINUTES		N-HEXANE
Y7LRK9							
<b>Other Recovery Technique:</b> desorption used pentane as a solvent							
YCFENV	✓			✓ 70	16 hours	Carbon/Charcoal	CS2
YQRZ4E	✓			✓ 80	5 hours	Carbon/Charcoal	CS2
YRMFHW	✓			✓ ~ 80	~ 16 hours	Carbon/Charcoal	Carbon Disulfide
<b>Other Recovery Technique:</b> Heated Headspace							
YUWQAU		✓		✓ 90			Thermal
<b>Other Recovery Technique:</b> SPME							
YZYWMB	✓			✓ 60	16 hours	Carbon/Charcoal	
Z6AXWL		✓	✓	✓ 130		Tenax TA	
Z6L4MV	✓			✓ 80		Carbon/Charcoal	Carbon Disulfide
ZGHXD8	✓		✓	✓ 70	overnight	Carbon/Charcoal	pentane
ZGLQZL	✓		✓		~24hrs	Carbon/Charcoal	Dichloromethane (DCM)
<b>Other Recovery Technique:</b> solvent extraction using DCM for confirmation							
ZJ8JQV	✓			✓ 50	30 Minutes	SPME	Thermal
ZNZLRA	✓			✓ ~90	16 hours	Carbon/Charcoal	Carbon Disulfide
<b>Other Recovery Technique:</b> Direct Headspace (Heated)							
ZPEQTT		✓		✓ 100		TENAX TA	Thermal
ZVGW7A		✓		✓ ~95	25 minutes	Carbon/Charcoal	Carbon Disulfide
ZWWE7V	✓			✓ 65	16 hours	Carbon/Charcoal	carbon disulfide

<b>Response Summary</b>									
Participants	Adsorption Headspace		Adsorption Temp		Adsorbent		Desorption		
	Passive	Dynamic	Rm Temp	Heated	Carbon/Charcoal	Other	Thermal	Solvent	
<b>309</b>	<b>273</b>	<b>23</b>	<b>27</b>	<b>283</b>	<b>248</b>	<b>42</b>	<b>35</b>	<b>252</b>	

# Identification Techniques

## TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
2673KT		✓		7ULEHP		✓		B689PT		✓	
26MAPB		✓		7UPWPZ		✓		B9CQ9G		✓	
28YRAG		✓		7UQLVH		✓		BBB82J		✓	
2DZ43R		✓		7VNW8T		✓		BD6RDF		✓	
2FJBV3		✓		7VWF9W		✓		BK9W3E		✓	
2TTWET		✓		7WBK3L		✓		BLFANM		✓	
32JKZM		✓		7Y4FZF		✓		BNLG8E		✓	
39FNJT		✓		7ZR8GT		✓		BUT6KG		✓	
39GJ73		✓		84V6WD	✓	✓		BUWFT7		✓	
3DBCKR		✓		8B6REU		✓		BV7QJH		✓	
3EKGWU		✓		8DJ67V		✓		C4C24T		✓	
3JEHVN		✓		8HRDMZ		✓		CEDL7L		✓	
3L4R44		✓		8K6QKA		✓		CG3TQH		✓	
3NUQNU	✓	✓		8NDJ7T		✓		CHEMAP		✓	
3TRCBQ		✓		8VH3PR		✓		CNXXFD	✓	✓	
3ULX6G		✓		8YV8WK	✓	✓		CRPHVJ		✓	
3UV9FT		✓		8Z9LKW		✓		CUP39G		✓	
46GJRR		✓		92G7PA		✓		CV2QY9		✓	
46YECE		✓		93A2CH		✓		CWX4JF		✓	
488MKY		✓		948CA7		✓		CXARYL		✓	
4L2ARQ		✓		96YBKX		✓		CY4HZU		✓	
4LQ86R		✓		9AVT8Q	✓	✓		D4N8RG		✓	
4NRDKX		✓		9B6VTP		✓		DAXDDF		✓	
4QEZ9E		✓		9BKBUJ		✓		DBQ8D6		✓	
4R79ZV		✓		9FUNFQ		✓		DCMMLV		✓	
4RBF66		✓		9JJN4K		✓		DLP3BZ		✓	
4UF6NK			GC/MS with Thermal Desorption	9RV3KV	✓			DM62T6		✓	
4W6PDP		✓		9T6UWW		✓		DNE79E		✓	
4YDF3T		✓		9W644D	✓	✓		DUZBUP		✓	
6DNKMQ	✓	✓		9WAD4Q		✓		DV2U8P	✓	✓	
6FLC6N		✓		9X2E22	✓	✓		EC47X7	✓	✓	
6LWG7N		✓		9XZVQK		✓		ECZJHD		✓	
6N3TZH		✓		9YBNRD		✓		EPPZNF		✓	
6WGTFF		✓		9Z6AK6		✓		EGAZGF	✓	✓	
6YB3ZH		✓		9ZN66U		✓		EM226A		✓	
72AZNF		✓		A6HC6F		✓		EMVTF		✓	
7336RM		✓		A7CFGM	✓	✓	Odor assessment	EP9GEZ		✓	
7A2KNM		✓		A9CC3P		✓		EPKZDC		✓	
7F4NJM		✓		A9JD9J		✓		EPQ9P7	✓	✓	
7G6AJ9		✓		AEJW88		✓		ERAGEX		✓	
7M9DA8		✓		AJ7EWK		✓		EU36K9		✓	
7N32UN		✓		AQFZGT		✓		F2G86F		✓	
7NLY9A		✓		AWXHMQ		✓		F4MYTM		✓	
				AXY7CE		✓		F7C7DJ		✓	
								FB8XKF		✓	



TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
FCFAWQ		✓		KGRT3L		✓		PXMTBN		✓	
FJZBGA		✓		KJWLWJ		✓		PY28QK		✓	
FKB8PK		✓		KKYX7A		✓		Q2DKK4			GC/MS Headspace
FRCEDZ		✓	GC/FID	KMZC7K		✓		Q4UGL4		✓	
FRCH36		✓		KPR7AF		✓		QE8TT7		✓	
FTZPGN		✓		KRWR49		✓		QP389C		✓	
FXHYUD		✓		KTL6FY		✓		QP8EZ6		✓	
FYNMNA		✓		KXYQN7		✓		QT48QF		✓	
FZJ9HZ		✓		L2YF9Q		✓		QV9V76	✓	✓	
G74NJD		✓		L4NK64	✓	✓		QZ7CJY		✓	
G7RPTA		✓		LP4624		✓		R2H736		✓	
G9TWQT		✓		LPLGDH	✓			R82G9U		✓	
GBV47		✓		LVRTUN		✓		R9CKJW		✓	
GEFUBA		✓		M9UQ48		✓		RBJVFZ		✓	
GFD4FD		✓		MCA9DB		✓		RCFDDV		✓	
GFQRPR		✓		MDNNTX		✓		RFDJ92		✓	GC/MS-TD
GKPXAN		✓		MHYQP2		✓		RH6QG6		✓	
GMW8PZ		✓		MJGM8T		✓		RMXQY7	✓	✓	
GN3QGJ		✓		ML2JRD	✓	✓		RPMXJ3	✓	✓	odor assessment
GZHQ2G		✓		MLY49K		✓		RUUP7L		✓	
H6UPEV		✓		MN7E6N		✓		RV7CXA		✓	
H7HJF6		✓		N2CK29		✓		RWGDFZ		✓	
H8DVL7		✓		N727N2		✓		RWZ7K6		✓	
H9BECD		✓		N76PUC		✓		TCB7Z2		✓	
HEWENK		✓		N9WNCW		✓		TEUBGC		✓	
HG3L6R	✓	✓		NCM9PE	✓	✓		TMCJ8U		✓	
HGLK9G	✓	✓		NEVCL9		✓		TQDKAC		✓	
HRKF7C		✓		NJNCZ4	✓	✓		TXANU3		✓	
HTQWAA		✓		NM9FC8		✓		TZHNK2		✓	
HVL9FB		✓		NQ7T6Y		✓		U6MYGZ		✓	
J9KR7Z		✓		NQMA3F		✓		U7HEEQ		✓	
JFHGRB		✓		NTULZ2		✓		U9CZ8G	✓	✓	
JJ2EHM		✓	GC FID	NY2R3Z		✓		UBFVNY		✓	
JJ49WL		✓		P2MXUC		✓		UBW2W3		✓	
JKJEMX		✓		P3J9TJ		✓		UPD8YN		✓	
JLEYE4		✓		P4FVEM		✓		UPXH34		✓	
JRGXY2	✓			P6AG7T		✓		UQ63LW		✓	
JRZ4YQ		✓		P6PULP		✓		UWDLNW		✓	
JUN9ZB	✓	✓	odor assessment	P72JT9		✓		V6PVU4		✓	
JXRZBW		✓		P7X2Q4		✓		V894NX		✓	
K3UQTT		✓		P8BPA4		✓		VEB7YP		✓	
K6KRWW			GC/MS/FID	PF4VU4		✓		VHT7GQ		✓	
K828WM		✓		PHNVXQ		✓		VJ6Z2W		✓	
K9FJT8		✓		PPCLH2	✓	✓		VLU8LU		✓	
KBPK3K		✓		PR2ZW3		✓		VM8WN7		✓	
KGE2CP		✓		PTAWH8		✓					

TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
VQPW78	✓	✓									
VTPZ7		✓									
VXJBKD		✓									
VZ6YYY		✓									
W24DAX		✓									
W8Q98V		✓									
W9J3PZ	✓	✓									
WCFR2Y		✓									
WK93CU		✓									
WKF3KB		✓									
WTVWNJ		✓									
WZP42X		✓									
X39MEZ		✓									
X4L8CG		✓									
XBXB9H		✓									
XDPAIF		✓									
XFEF7D		✓									
XJWPC7		✓									
XLHHAR		✓									
XN9L3Y		✓									
XNENZK	✓	✓									
XPGXFU	✓	✓									
XUYXXV		✓									
XZ4W9K		✓									
Y4HYQB		✓									
Y7LRK9	✓	✓									
YCFENV	✓	✓									
YQRZ4E		✓									
YRMFHW	✓	✓									
YUWQAU		✓									
YZYWMB		✓									
Z6AXWL		✓									
Z6L4MV	✓	✓									
ZGHXD8		✓									
ZGLQZL		✓									
ZJ8JQV		✓									
ZNZLRA		✓									
ZPEQTT		✓	ATD-GC-MS (Automated Thermal Desorption)								
ZVGW7A		✓									
ZWWE7V		✓									

<b>Response Summary</b>		
Participants	GC	GC/MS
309	36	303

# Conclusions

TABLE 4

WebCode	Conclusions
2673KT	Items 3 and 4 (Exhibits 3 and 4) - No ignitable liquid was identified. Item 1 (Exhibit 1) – A Medium Petroleum Distillate was detected, examples of which include some Charcoal Starters, Paint Thinners and Dry Cleaning Solvents. Item 2 (Exhibit 2) - A Medium Isoparaffinic Product was detected, examples of which include some Charcoal Starters, Paint Thinners and Copier Toners.
26MAPB	Within the limits of the applied methodology and after considering respectively items 4 and 3 intended as comparison blanks : the presence of a Medium Petroleum Distillate (dearomatized) was detected in item 1. This class of products includes in particular some charcoal starters, some paint thinners and some dry cleaning solvents. The presence of a Medium Isoparaffinic Product was detected in item 2. This class of products includes in particular some charcoal starters, some paint thinners and some copier toners.
28YRAG	A medium petroleum distillate was detected in Item 1. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters and some mineral spirits. A medium isoparaffinic product was detected in Item 2. Examples of medium isoparaffinic products include, but are not limited to, some charcoal starters. No identifiable ignitable liquids were detected in Items 3 or 4.
2DZ43R	Exhibit 1 - Medium petroleum distillate, examples of which are paint thinners, dry cleaning solvents and some brands of charcoal starter fluids. No alcohol was found. Exhibit 2 - Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. No alcohol was found. Exhibit 3 - Used for comparison to Exhibit 2. Exhibit 4 - Used for comparison to Exhibit 1.
2FJBV3	1) In the sample received and labeled as item 1, it was detected the presence of one mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Methods as Medium Petroleum Distillates. Examples of substances with a chemical pattern similar to that detected in item 1 is: mineral spirits and paint thinner. 2) In the sample received and labeled as item 2, it was detected the presence of one mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Methods as Medium Isoparaffinic products. Examples of substances with a chemical pattern similar to that detected in item 2 is: same paint thinner and industrial solvent. 3) In the sample received and labeled as item 3 (control of item 2), it was detected the presence of one mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Methods as light aromatics products (toluene, ethylbenzene, xylenes and 1,2,4-trimethylbenzene). 4) In the sample received and labeled as item 4 (control of item 1), it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method. 5) The petroleum distillates medium and isoparaffinic products medium are a ignitable liquids. Ignitable liquid may start or accelerate a fire. The identification of an ignitable liquids residue in the item 1 and 2, does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues.
2TTWET	A medium de-aromatized petroleum distillate was detected within the contents of item 1. Examples of a medium petroleum distillate are some charcoal starters, some lamp oils and some paint thinners. A medium isoparaffinic was detected within the contents of item 2. Examples of a medium isoparaffinic are some lamp oils and some charcoal starters. Acetic acid was indicated to be present in item 3, but this was not confirmed. No ignitable liquid profile was identified within the contents of item 4.
32JKZM	1. Analysis indicates the presence of a medium petroleum distillate; 2. Analysis indicates the presence of an isoparaffinic product; 3. No ignitable liquids were present; 4. No ignitable liquids were present
39FNJT	The sample was analyzed by gas chromatography - mass spectrometry for presence of ignitable liquids. Item #1: Instrumental analysis detected the presence of normal alkanes, isoalkanes and cycloalkanes. The ignitable liquid is identified as medium, dearomatized petroleum distillates products. Item #2: Instrumental analysis detected high levels of isoparaffins without alkanes, cycloalkanes, alkylbenzenes. The ignitable liquid identified as medium isoparaffinic products. Item #3: No ignitable liquids were detected in the sample. Item #4: No ignitable liquids were detected in the sample.
39GJ73	A medium petroleum distillate was detected in Item 1. Medium petroleum distillates include, but are

TABLE 4

WebCode	Conclusions
	not limited to, some charcoal starters, some lamp oils, mineral spirits, some wood treatments and preservatives, some paint and stain thinners and solvents and numerous other specialty application solvents and thinners. A medium isoparaffinic product was detected in Item 2. Medium isoparaffinic products include, but are not limited to, some charcoal starters, some lamp oils, some mineral spirits substitutes, some wood treatments and preservatives and numerous other specialty application solvents and thinners. No ignitable liquids were detected in Items 3 or 4.
3DBCKR	Item 1 Q1: a medium range (nC9-nC12) petroleum distillate was detected. Item 2 Q2: a medium range (nC10-nC12) isoparaffinic product was detected. Item 3 K1: Analyzed for comparison. Item 4 K2: Analyzed for comparison. Examples of a medium range petroleum distillate include but are not limited to some charcoal starters, some paint thinners and some dry cleaning solvents. Examples of a medium range isoparaffinic product include but are not limited to some charcoal starters, some paint thinners and some copier toners.
3EKGWU	A medium petroleum distillate was identified in Lab Item 1. A medium isoparaffinic product was identified in Lab Item 2. No ignitable liquids were identified in Lab Item 3 or in Lab Item 4.
3JEHVN	Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). A Medium Petroleum Distillate was identified. Examples of this type ignitable liquid include: some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). A Medium Isoparaffinic product was identified. Examples of this type ignitable liquid include: some charcoal starters, some paint thinners and some copier toners. Items 3 and 4: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). Ignitable liquids were not identified in the sample.
3L4R44	GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #1 - 17-536-1 revealed the presence of compounds having retention times and mass ions characteristic of components of a medium petroleum distillate. Medium petroleum distillate products include some paint thinners, some charcoal starters and some dry cleaning products. GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #2 - 17-536-2 revealed the presence of compounds having retention times and mass ions characteristic of components of a medium isoparaffinic product. Medium isoparaffinic products include some charcoal starters, some paint thinners and some copier toners. GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #3 - 17-536-3, submitted as a comparison blank, revealed the presence of compounds having retention times and mass ions characteristic of matrix components and/or pyrolysis products. GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #4 - 17-536-4, submitted as a comparison blank, revealed the presence of compounds having retention times and mass ions characteristic of matrix components and/or pyrolysis products.
3NUQNU	No ignitable liquids were identified in the comparison blanks (items 3 and 4). item 1 : medium petroleum distillate; item 2 : medium isoparaffinic product
3TRCBQ	Items 001-001-001, 001-002-001, 001-003-001, and 001-004-001 were sampled using passive headspace concentration with activated carbon. The sample extracts (items 001-001-001-001, 001-002-001-001, 001-003-001-001, and 001-004-001-001) were analyzed by gas chromatography/ mass spectrometry (GC/MS) for the presence of ignitable liquid residues. The sample extracts (items 001-001-001-002, 001-002-001-002, 001-003-001-002, and 001-004-001-002) were not analyzed. A medium petroleum distillate was detected in the sample extract (item 001-001-001-001). Examples of medium petroleum distillates include some charcoal starters, some paint thinners, and some dry cleaning solvents. A medium isoparaffinic product was detected in the sample extract (item 001-002-001-001). Examples of medium isoparaffinic product include some charcoal starters, some paint thinners, and some copier toners. Ignitable liquid residues were not detected in the comparison blank samples (items 001-003-001-001 or 001-004-001-001). The absence of ignitable liquid residues could be due to the following: Ignitable liquids not being used. Ignitable liquids are volatile compounds and may have evaporated

TABLE 4

WebCode	Conclusions
3ULX6G	A medium-range petroleum distillate was identified in item 1. Examples of medium-range petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners and some dry cleaning solvents. A medium-range isoparaffinic product was identified in item 2. Examples of medium-range isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners and some copier toners.
3UV9FT	GC-MS analysis identified residues of a medium-range petroleum distillate in Item 1. GC-MS analysis identified residues of a medium-range branched alkane (isoparaffin) product in Item 2. GC-MS analysis failed to identify any ignitable liquid residues in Item 3 or Item 4.
46GJRR	GCMS analysis of Item 1 disclosed the presence of a Medium Range Petroleum Distillate. Examples of a Medium Range Petroleum Distillate include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. GCMS analysis of Item 2 disclosed the presence of a Medium Range Isoparaffinic Product. Examples of a Medium Range Isoparaffinic Product include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners.
46YECE	A petroleum distillate in the medium range was identified in Item #1. Examples of this include some charcoal starters, some paint thinners, and some dry cleaning solvents. A naphthenic - paraffinic product in the medium range was identified in Item #2. Examples of this include some charcoal starters, some insecticide vehicles, and some lamp oils. There were no ignitable liquids identified in Item #3 or Item #4.
488MKY	Exhibit 1 contained a medium petroleum distillate (MPD). MPDs are ignitable liquids. Examples of MPDs include paint thinners, charcoal starters, and mineral spirits. Exhibit 2 contained an isoparaffinic product in the medium range. Isoparaffinic products are ignitable liquids. Examples of isoparaffinic products include paint thinners, charcoal starters, and some lamp oils. No ignitable liquids were identified in Items 3 and 4.
4L2ARQ	Item 1 consists of a white fabric cutting. This item was found to contain a medium petroleum distillate. Item 2 consists of a charred block of wood. This item was found to contain a medium isoparaffinic product.
4LQ86R	Item 1 was found to contain a medium petroleum distillate. Item 2 was found to contain an isoparaffinic product.
4NRDKX	A medium petroleum distillate (MPD), which is an ignitable liquid, was identified in Exhibit 1. Examples of MPDs include some brands of odorless paint thinners, some brands of odorless charcoal lighter fluids and odorless mineral spirits. A medium isoparaffinic product, which is an ignitable liquid, was identified in Exhibit 2. Examples of medium isoparaffinic products include some brands of lamp oil, some brands of odorless paint thinner and some brands of camping fuel. No ignitable liquids were identified in Exhibits 3 and 4.
4QEZ9E	Items 1 to 4 were examined for the presence of hydrocarbon fire accelerants e.g. petrol, white spirit, paraffin oil, diesel oil. Partly evaporated medium petroleum distillate vapour was detected in item 1. Examples of medium petroleum distillates include white spirit, some charcoal starters and some paint thinners. Indications of the presence of a partly evaporated medium isoparaffinic product vapour were detected in item 2. Medium isoparaffinic products are flammable liquids. Examples of medium isoparaffinic products include some paint thinners, some copier toners, some lamp oils and some charcoal starters. No such accelerants were detected in items 3 and 4.
4R79ZV	Item 001: An ignitable liquid was identified. The ignitable liquid is a medium petroleum distillate. An example of a liquid in this class would be some charcoal lighter fluids. Item 002: An ignitable liquid was identified. The ignitable liquid is a medium isoparaffinic product. An example of a liquid in this class would be some charcoal lighter fluids or paint thinners.
4RBF6G	item 1 : flammable liquid detected. Predominate n-alkane serie (range from n-C9 to n-C12). Low level of aromatic coupounds. The product is identified as a medium petroleum distillate (mineral spirt, charcoal lighter, paint thinner ...). item 2 : flammable liquid detected. Brancked alkanes (range from n-C10 to n-C12) without signifiant amount of cycloalkanes and n-alkanes. The product is identified as a medium isoparaffinic product (paint thinner, charcoal lighter, cleaning solvent ...).
4UF6NK	A medium petroleum distillate product was detected in the cloth remnant from the living room

TABLE 4

WebCode	Conclusions
	drapes(Item 1). The hydrocarbon range is C9-C12. Major Peaks are n-Nonane, n-Decane, n-Undecane, n-Dodecane and 4-methyldecane. An example of this medium petroleum distillate product, is mineral spirit. No ignitable liquid was detected on the charred portion of wood from the area by the front door(Item2).
4W6PDP	GC/MS analysis of Item 001 disclosed the presence of a medium petroleum distillate. Examples of a medium petroleum distillate include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. GC/MS analysis of Item 002 disclosed the presence of a medium isoparaffinic product. Examples of a medium isoparaffinic product include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners.
4YDF3T	Analysis of Item 1 revealed the presence of a medium petroleum distillate. Products in this range include, but are not limited to: mineral spirits, some paint thinners, some charcoal starters, "dry cleaning" solvents, some torch fuels, some solvents for insecticides and polishes, and some lamp oils. Analysis of Item 2 revealed the presence of an isoparaffin product. Products in this range include, but are not limited to: some charcoal starters, some copier fluids, some aviation gasoline, some lamp oils, some solvents for insecticides and polishes and some camping fuels.
6DNKMQ	An ignitable liquid classified as a Medium Petroleum Distillates was detected in Item 1. Examples of Medium Petroleum products charcoal starters, Paint thinners, Mineral spirits. An ignitable liquid classified as a Medium Isoparaffinic product was detected in Item 2. Examples of Medium Isoparaffinic products some charcoal starters, Paint thinners, copier toners.
6FLC6N	A de-aromatized medium petroleum distillate was detected in the nylon bag containing a piece of cloth (Item 1). Examples of ignitable liquids in the medium petroleum distillates class include some charcoal starters, some paint thinners, some lamp oils, some torch fuels, and some dry cleaning solvents. Dearomatized products may be advertised as "odorless." An Isoparaffin was detected in the nylon bag containing a block of wood (Item 2). Examples of ignitable liquids in the Isoparaffin class include some charcoal starters, some paint thinners, some lamp oils, some camping fuels, and some copier fluids. No ignitable liquids were detected in the comparison samples (Items 3 and 4).
6LWG7N	Item 1: A medium petroleum distillate in the range of C9-C12 was detected in Item 1. Examples of this distillate include some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2: A medium isoparaffinic product like that found in some charcoal starters, paint thinners or toner solvents was present in Item 2.
6N3TZH	A petroleum distillate in the medium range was detected in item 1. Examples of medium petroleum distillates include some charcoal starters, some paint thinners, and some dry cleaning solvents. An isoparaffinic product in the medium range was detected in item 2. Examples of medium isoparaffinic products include some charcoal starters, some paint thinners, and some copier toners. No ignitable liquids were detected in items 3 and 4.
6WGTFF	Item 1: Item 1 was subjected to adsorption-elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a medium petroleum distillate ignitable liquid. Examples of medium petroleum distillate ignitable liquids include (but are not limited to): some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2: Item 2 was subjected to adsorption-elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a medium isoparaffinic ignitable liquid. Examples of medium isoparaffinic ignitable liquids include (but are not limited to): some charcoal starters, some paint thinners, and some dry cleaning solvents. The presence of ignitable liquids in Item 1 and Item 2 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids.
6YB3ZH	Item 1 - A de-aromatized medium petroleum distillate was detected in the contents of this item. Medium petroleum distillates can be found in a variety of products including some speciality/industrial solvents and some insecticide solvents. Item 2- Medium-volatility branched alkane (isoparaffinic) hydrocarbons were detected in the contents of this item. Branched alkanes can be found in a variety of products including some paint solvent and cleaning products. Item 3- The contents of this item were examined for the presence of ignitable liquid residues, and none were found. Item 4- The contents of

TABLE 4

WebCode	Conclusions
	this item were examined for the presence of ignitable liquid residues, and none were found.
72AZNF	Item 1 was found to contain volatile hydrocarbons typical of a medium petroleum distillate. Products identified in this ignitable liquid class include cleaner fluids, mineral spirits and charcoal lighters. Comparison with held standards of these products has not identified a source for the medium petroleum distillate identified in item 1. Item 2 was found to contain volatile hydrocarbons typical of a medium isoparaffinic product. Products identified in this ignitable liquid class include solvents, charcoal lighters and feedstocks. Comparison with held standards of these products has not identified a source for the medium isoparaffinic product identified in item 2.
7336RM	Exhibit 1 was analyzed and determined to contain a medium petroleum distillate. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Exhibit 2 was analyzed and determined to contain a medium isoparaffinic product. Medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, some copier toners, and some specialty solvents. Exhibits 3-4 were analyzed, and no common ignitable liquid residues were detected. This conclusion is based upon gas chromatography-mass spectrometry (GC-MS) analysis of concentrated headspace vapors from each sample. A reserve carbon strip containing concentrated headspace vapors from each sample was returned inside the original evidence containers.
7A2KNM	The following items were examined for the presence of ignitable liquids: Item 1.1 cloth remnant from living room drapes: Analysis Result: A medium petroleum distillate was detected in the Item 1.1 cloth sample. Examples of medium petroleum distillates include some charcoal starters and paint thinners. Item 1.2 charred portion of wood: Analysis Result: A medium isoparaffinic product was detected in the Item 1.2 wood sample. Examples of medium isoparaffinic products include some charcoal starters and paint thinners. Item 1.3 wood blank: Analysis Result: No ignitable liquid was identified in the Item 1.3 wood blank. Item 1.4 cloth blank: Analysis Result: No ignitable liquid was identified in the Item 1.4 cloth blank. Analysis performed by gas chromatography/mass spectrometry (GC/MS).
7F4NJM	(1) a medium petroleum distillate was identified in Sp. #1. Examples include paint thinners, charcoal starters, and cleaning solvent. (2) An isoparaffinic product was identified in Sp. #2. (medium subclass). Examples include paint thinners, charcoal starters, and copier toner. (3) No ignitable liquids were detected in specim. #3. (4) No ignitable liquids were detected in specim. #4. Specimens 1-4 were extracted by passive concentration headspace with activated charcoal and analyzed by gas chromatography - mass spectrometry.
7G6AJ9	EVIDENCE ANALYZED: Item 1. A heat-sealed fire debris bag containing a square of cloth. Item 2. A heat-sealed fire debris bag containing a charred piece of wood. Item 3. A heat-sealed fire debris bag containing a piece of wood. (Comparison). Item 4. A heat-sealed fire debris bag containing a square of cloth. (Comparison). RESULTS OF ANALYSIS: Items 1, 2, 3 and 4 were extracted by passive adsorption/elution and analyzed by gas chromatography-mass spectrometry. Item 1. A medium petroleum distillate was identified in the heat-sealed fire debris bag. Examples of medium petroleum distillates are some paint thinners, charcoal starters, and mineral spirits. Item 2. A medium isoparaffinic product was identified in the heat-sealed fire debris bag. Examples of medium isoparaffinic products are some charcoal starters, paint thinners, and copier toners. Item 3. No ignitable liquids were identified in the heat-sealed fire debris bag. (Comparison). Item 4. No ignitable liquids were identified in the heat-sealed fire debris bag. (Comparison)
7M9DA8	Item 1: A medium petroleum distillate was identified. Medium petroleum distillates are ignitable liquids and examples include, but are not limited to, some charcoal starters, paint thinners, and dry cleaning solvents. Item 2: A medium isoparaffinic product was identified. Isoparaffinic products are ignitable liquids and examples include, but are not limited to, some charcoal starters, paint thinners, and copier toners. Item 3: No ignitable liquid was identified. Item 4: No ignitable liquid was identified.
7N32UN	Item 1: Medium petroleum distillate, examples of which are paint thinners, dry cleaning solvents, and some brands of charcoal starter fluids. Item 2: Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. Item 3: No ignitable liquids found. Item 4: No ignitable liquids found.
7NLY9A	A Medium Petroleum Distillate was detected in Item 1. Examples of medium petroleum distillates

TABLE 4

WebCode	Conclusions
	include some charcoal starters, paint thinners and dry cleaning solvents. A Medium Isoparaffinic Product was detected in Item 2. Examples of medium isoparaffinic products include some charcoal starters, paint thinners, and copier toners. No ignitable liquid residues were detected in Items 3 or 4 (comparison samples).
7ULEHP	Item #1 - Cloth Remnant: A de-aromatized medium petroleum distillate was detected in Item #1 based on the ASTM 1618 classification scheme. Examples of products which contain these distillates include charcoal lighters, paint thinners and some dry cleaning solvents. Item #2 - Charred Wood: A medium iso-paraffinic product was detected in Item #2 based on the ASTM 1618 classification scheme. Examples of products which contain these distillates include charcoal lighters, some paint thinners and some copier toners. Control Samples, Items #3 and #4, were provided for both matrices and were negative for the presence of accelerants.
7UPWPZ	Item 1 contains a partially evaporated petroleum distillate product, such as white spirit, Stoddards solvent or similar product (charcoal lighters, paint thinners) Item 2 contains a partially evaporated isoparaffinic product such as Isopar, Shellsol or a similar product (paint thinner, charcoal lighter)
7UQLVH	Residues of a medium petroleum distillate (MPD) in the carbon range from C10 through C12 was identified on Item 1. Examples of MPD's include some charcoal starters, some paint thinners, and some dry cleaning solvents. Residues of a isoparaffinic product were identified on Item 2. Examples of isoparaffinic products include some charcoal starts, some paint thinners, and some copy toners. No ignitable liquids were detected on Items 3 and 4.
7VNWT8	[No Conclusions Reported.]
7VWF9W	Item 1 ranges from C3 to C8. Item 2 ranges from C4 to C7. The slight difference between the two samples could be as a result of weathering. Item 2 was charred therefore this could have affected the pattern.
7WBK3L	Item 1.1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Petroleum Distillate. Examples of a Medium (C8-C13) Petroleum Distillate include some charcoal starters, some paint thinners, and some dry-cleaning solvents. Item 1.2: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Isoparaffinic Product. Examples of a Medium (C8-C13) Isoparaffinic Product include some charcoal starters, some paint thinners, and some copier toners. Item(s) 1.3 and 1.4: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified.
7Y4FZF	Item 1 - Medium petroleum distillate identified. Item 2 - No common ignitable liquids identified. Item 3 - Miscellaneous product - acetic acid identified. Item 4 - No common ignitable liquids identified.
7ZR8GT	A medium petroleum distillate was identified in item 1. Medium petroleum distillates include, but are not limited to, some charcoal starters, paint thinners, and dry cleaning solvents. A medium isoparaffinic product was identified in item 2. Medium isoparaffinic products include, but are not limited to, some charcoal starters, paint thinners, and copier toners. No common ignitable liquid was identified in items 3 and 4. Some conditions that could lead to this result are: A. No common ignitable liquid was present in the material analyzed. B. An ignitable liquid was present but below quantities required for a positive identification. C. An uncommon ignitable liquid was present.
84V6WD	Item 1 contained a patch of white cloth which was found to contain a medium petroleum distillate. Item 2 contained a piece of burnt wood which was found to contain an isoparaffinic product. Item 3 contained a piece of unburnt wood. No accelerant was detected in this item. Item 4 contained a patch of white cloth. No accelerant was detected in this item.
8B6REU	Item 1: A medium petroleum distillate was detected. Examples of medium petroleum distillates are also found in some paint thinners and some dry cleaning solvents. Item 2: A medium isoparaffinic product was detected. Examples of medium isoparaffinic products are some paint thinners.
8DJ67V	Exhibit 1 contained a medium petroleum distillate (MPD), which is an ignitable liquid. Examples of MPDs include some charcoal starters, some paint thinners and mineral spirits. Exhibit 2 contained a medium isoparaffinic product, which is an ignitable liquid. Examples of this classification include some charcoal starters, some paint thinners and some lamp oils. No ignitable liquids were identified in



TABLE 4

WebCode	Conclusions
	Exhibit 3 or 4.
8HRDMZ	Item 1: A de-aromatized medium petroleum distillate was detected. Examples include some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2: A medium isoparaffinic product was detected. Examples include some charcoal starters, some paint thinners and some copier toners. Item 3: No ignitable liquids were detected. Item 4: No ignitable liquids were detected.
8K6QKA	Analysis of Item 1 revealed the presence of a medium petroleum distillate (MPD). Examples of this class are some charcoal starters, some paint thinners, and some dry cleaning solvents. Analysis of Item 2 revealed the presence of an isoparaffinic product. Examples of this class are some charcoal starters, some paint thinners, and some copier toners.
8NDJ7T	A medium petroleum distillate was detected in Item 1. Examples of a medium petroleum distillate include but are not limited to, some odorless mineral spirits. A medium isoparaffinic product was detected in Item 2. Examples of a medium isoparaffinic product include but are not limited to, some odorless paint thinners. No ignitable liquids were detected in Item 3 and Item 4.
8VH3PR	1. Laboratory item #1: A Medium Petroleum Distillate was identified. Examples of Medium Petroleum Distillates include some charcoal starters, some paint thinners, and some dry cleaning solvents. 2. Laboratory item #2: A Medium Isoparaffinic Product was identified. Examples of Medium Isoparaffinic Products include some charcoal starters, some paint thinners, and some copier toners. 3. Laboratory item #3 (comparison sample for Laboratory item #2): No ignitable liquids were identified. 4. Laboratory item #4 (comparison sample for Laboratory item #1): No ignitable liquids were identified.
8YV8WK	Item 1: A piece of fabric was analysed for the presence of ignitable liquid residues and medium petroleum distillates was detected. Item 2: A piece of partially burnt wood was analysed for the presence of ignitable liquid residues and medium isoparaffinic product was detected. Item 3: A piece of wood submitted as a control to exhibit marked "Item 2" was analysed for the presence of ignitable liquid residues and none was detected. Item 4: A piece of fabric submitted as a control to exhibit marked "Item 1" was analysed for the presence of ignitable liquid residues and none was detected. Note: 1) Examples of medium petroleum distillates include some charcoal starters, some paint thinners and some dry cleaning solvents. 2) Examples of medium isoparaffinic product include some charcoal starters, some paint thinners and some copier toners.
8Z9LKW	A medium petroleum distillate on item #1, A medium isoparaffinic product on #2, and no ignitable liquid on #3 or 4.
92G7PA	A medium petroleum distillate was identified in item 1. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. A medium isoparaffinic product was identified in item 2. Examples of medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners. No ignitable liquids were identified in items 3 or 4.
93A2CH	Item 1 Medium Petroleum Distillate Identified. Examples are some mineral spirits, some paint thinners and some charcoal starters. Item 2 Medium Isoparaffinic Products Identified. Examples are some charcoal starters, some paint thinners and some copier toners. Item 3 Used for Comparison. No Ignitable Liquids Identified. Item 4 Used for Comparison. No Ignitable Liquids Identified.
948CA7	Item 1.1, 1.2, 1.3 and 1.4 were extracted by passive adsorption/elution and analyzed by gas chromatography-mass spectrometry. Item 1.1. A medium petroleum distillate was identified in the square piece of white cloth. Examples of medium petroleum distillates are some paint thinners, charcoal starters, and mineral spirits. Item 1.2. A medium isoparaffinic product was identified in the charred block of wood. Examples of a medium isoparaffinic product are some paint thinners, charcoal starters, and copier toners. Item 1.3. No ignitable liquids were identified in the uncharred block of wood. (control) Item 1.4. No ignitable liquids were identified in the square piece of white cloth. (control)
96YBKX	Item 1: A de-aromatized medium petroleum distillate was detected. Examples include some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2: A medium isoparaffinic product was detected. Examples include some charcoal starters, some paint thinners and some copier toners. Item 3: No ignitable liquids were detected. Item 4: No ignitable liquids were detected.

TABLE 4

WebCode	Conclusions
9AVT8Q	Item 1 was found to contain a medium petroleum distillate. Examples include: some charcoal starters, some paint thinners, mineral spirits. Item 2 was found to contain a medium isoparaffinic product. Examples include: some charcoal starters, some paint thinners, some copier toners. Items 3 and 4 were used as controls.
9B6VTP	Item #1: A medium petroleum distillate was detected. Examples of medium petroleum distillates include some charcoal starters, some paint thinners, and some specialty solvents. Item #2: A medium isoparaffinic product was detected. Examples of medium isoparaffinic products include some charcoal starters, some paint thinners, and some specialty solvents. Item #3: No ignitable liquids were detected. Item #4: No ignitable liquids were detected.
9BKBUJ	Analysis by Gas Chromatography-Mass Spectrometry of: Item 1 - The cloth remnant from the living room drapes revealed the presence of a medium range petroleum distillate. Item 2 - The charred portion of wood from the area by the front door revealed the presence of a medium range naphthenic paraffinic product.
9FUNFQ	MPD: The presence of a medium petroleum distillate was chromatographically detected. Examples of a medium petroleum distillate include mineral spirits, some charcoal starters, some torch fuels, some lamp oils, some paint thinners, some solvents for insecticides and polishes, and some dry cleaning solvents. ISOPARAFFINIC PRODUCT: The presence of an isoparaffinic product was chromatographically detected. Examples of an isoparaffinic product include aviation gas, some charcoal starters, some paint thinners, some copier fluids, and some commercial specialty solvents. *For comparison/exemplar samples submitted (item #3 &4): NEGATIVE (EXEMPLAR): No common commercially available ignitable liquids were chromatographically detected. The absence of detectable levels of ignitable liquid residues can be due to several factors, including destruction by the inherent nature of fire, evaporation prior to collection and analysis, fire suppression activities, improper packaging of sample, or lack of use of ignitable liquids.
9JJN4K	Instrumental analysis of exhibit #1 revealed a medium petroleum distillate. Instrumental analysis of exhibit #2 revealed a medium isoparaffinic product. No ignitable liquid was detected in exhibits #3 and 4.
9RV3KV	A medium petroleum distillate (C9 - C11) was identified in Item 1. Examples of this medium petroleum distillate include Mineral Spirits and lighter fluids. A medium petroleum distillate (C10 - C11) was identified in Item 2. An example of this medium petroleum distillate include Thinners. No ignitable liquids were identified in Item 3 and Item 4.
9T6UVW	1. A medium petroleum distillate was detected in Exhibit 1, uses of which include, but are not limited to, some charcoal starters, some paint thinners and some dry cleaning solvents. Medium petroleum distillates are ignitable liquids and could act as a fire accelerant. 2. A medium isoparaffinic product was detected in Exhibit 2, uses of which include, but are not limited to, some charcoal starters, some paint thinners, some specialty solvents and some copier toners. Medium isoparaffinic products are ignitable liquids and could act as a fire accelerant. 3. No ignitable liquid, or its residue, was detected in Exhibit 3 or 4.
9W644D	According to ASTM E1618-14 : Item 1 : Medium Petroleum Distillates Products (including De-Aromatized)were highlighted. They can be found in Some Charcoal Starters, Some Paint Thinners and Some Dry Cleaning Solvents. Item 2 : Medium Isoparaffinic Products were highlighted. They can be found in Some Charcoal Starters, Some Paint Thinners and Some Copier Toners. Item 3 : was given as an analytical blank for Item 2. Item 4 : was given as an analytical blank for Item 1.
9WAD4Q	Analysis of item 1 revealed the presence of a petroleum distillate, examples of which include some cigarette lighter fluids, paint thinners, charcoal starter fluids, camping fuels, diesel fuel, and some jet fuels. The product identified is further classified as a medium range product. Analysis of item 2 revealed the presence of an isoparaffinic product, examples of which include some specialty solvents, some charcoal starter fluids, some copier toners, and some commercial specialty solvents. The product identified is further classified as a medium range product.
9X2E22	Item 1: Medium Petroleum Distillate, include Charcoal lighters. Item 2: Medium Isoparaffinic products, include charcoal lighters or solvents.

TABLE 4

WebCode	Conclusions
9XZVQK	A medium petroleum distillate (MPD) was identified in specimen #1. Examples of a MPD include some charcoal starters, some paint thinners, and some dry cleaner solvents. A medium isoparaffinic product was identified in specimen #2. Examples of medium isoparaffinic products include some charcoal starters, some paint thinners, and some copier toners. No ignitable liquids were detected in specimens #3 and #4. The specimens were extracted by passive concentration headspace with activated charcoal and analyzed by GC/MS.
9YBNRD	Medium Petroleum Distillate was identified in Item 9YBNRD.1 (Item 1), such as charcoal lighter fluid and painter thinner. Medium Isoparaffinic was identified in Item 9YBNRD.2 (Item 2), such as charcoal lighter, paint thinners, spot remover and copier toner.
9Z6AK6	The volatile contents of Items 1 - 4 were extracted using a passive carbon adsorption/elution technique and analyzed by gas chromatography - mass spectrometry (GC-MS). A medium petroleum distillate was identified in Item 1, and a medium isoparaffinic product was identified in Item 2. (Identification). No ignitable liquid residues were detected in Items 3 and 4 (Not Detected).
9ZN66U	Item 1: A Medium Petroleum Distillate Product was identified in Item 1, the cloth remnant from the living room. Examples of Medium Petroleum Distillate Products include, but are not limited to some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2: A Medium Isoparaffinic Product was identified in Item 2, the charred portion of wood from the area by the front door. Examples of Medium Isoparaffinic Products include, but are not limited to some charcoal starters, some paint thinners, and some copier toners. Items 3 and 4 were analyzed for quality control purposes only.
A6HC6F	Residues of a medium petroleum distillate were identified on Item 1. Examples of medium petroleum distillates include some charcoal starters and some paint thinners. Residues of a medium isoparaffinic product were identified on Item 2. Examples of medium isoparaffinic products include some charcoal starters and some paint thinners. No ignitable liquid residues were identified on Item 3 or Item 4. Items 1 through 4 were examined using a passive adsorption/elution technique followed by analysis with gas chromatography-mass spectrometry (GC-MS). These items were also examined by direct heated headspace sampling followed by analysis with GC-MS.
A7CFGM	Examination of item #1 revealed the presence of a medium petroleum distillate. Medium petroleum distillates include some charcoal starters and some paint thinners. Examination of item #2 revealed the presence of an isoparaffinic product. Isoparaffinic products include some charcoal starters and some paint thinners. Examination of items #3 and #4 failed to reveal the presence of ignitable liquids.
A9CC3P	Item 1 contains components identifiable as a medium de-aromatized petroleum distillate characteristic of some charcoal starters, some paint thinners, etc. Item 2 Contains components identifiable as a medium isoparaffinic product characteristic of some charcoal starters, some paint thinners, etc. Items 3 and 4 failed to reveal the presence of an identifiable ignitable liquid
A9JD9J	Item 1, cloth remnant from the living room drapes, contains a medium petroleum distillate. Item 2, charred portion of wood from the area by the front door, contains a medium range naphthenic/paraffinic solvent.
AEJW88	Conclusions: Item 1 was found to contain a volatile mixture identified as a medium petroleum distillate. Examples of such mixtures include some charcoal lighters, some paint thinners, and some lamp oils. Item 2 was found to contain a volatile mixture identified as a medium isoparaffinic product. Examples of products containing medium isoparaffins include some charcoal lighters, some lamp oils and some organic solvents. No common ignitable liquids were detected in items 3 or 4. This does not preclude the possibility that an ignitable liquid may have been present at an earlier time.
AJ7EWK	1) Analysis identified the presence of a medium petroleum distillate. Some examples of medium petroleum distillates include: Klean Strip Kerosene, some charcoal starters, some paint thinners, and some dry cleaning solvents. 2) Analysis identified the presence of a medium isoparaffinic product. Some examples of a medium isoparaffinic product include: some charcoal starters, some paint thinners, and some copier toners. 3 & 4 (controls): No ignitable liquids were detected.
AQFZGT	Exhibit 1 contained a medium petroleum distillate (MPD), which is an ignitable liquid. Examples of

TABLE 4

WebCode	Conclusions
	MPDs include mineral spirits, some paint thinners, some charcoal starters and some lamp oils. Exhibit 2 contained a medium isoparaffinic product. Examples of medium isoparaffinic products include some charcoal starters, some paint thinners, some camping fuels and some lamp oils. No ignitable liquids were identified in Exhibits 3 or 4.
AWXHMQ	1: Contains an ignitable mid-range petroleum distillate product.. 2: Contains an ignitable mid-range isoparaffinic product. Both may be marketed as a charcoal starter, paint thinner or as a specialty solvent.
AXY7CE	1 Analysis indicates the presence of a medium petroleum distillate. 2 No ignitable liquids were detected.
B689PT	A medium Petroleum Distillate was present in Exhibit #1. A medium Isoparaffinic Product was present in Exhibit #2. No Ignitable Liquid was determined on Exhibits # 3 & 4
B9CQ9G	Item #1 (cloth): positive for medium de-aromatized petroleum distillate. Item #2 (wood): positive for medium isoparaffinic product.
BBB82J	In item 1 cycloalkanes and branchedalkanes are abundant. As well as n-alkanes are strongly diminished. But the aromatics (including indanes) and the polynuclear aromatics are absent in that sample. Hence we concluded that the item 1 consisted with the residues of ignitable liquid, containing naphthenic paraffinic products. In item 2 branched alkanes are abundant. As well as n-alkanes are strongly diminished. but the cycloalkanes, aromatics (including indanes) and the polynuclear aromatics are absent in that sample. Hence we concluded that the item 2 consisted with the residues of ignitable liquid, containing isoparaffinic products.
BD6RDF	Item 1: Petroleum Distillates, Medium (C8-C13) Item 2: Isoparaffinic Products, Medium (C8-C13)
BK9W3E	1.) Medium petroleum distillate found. Some common examples include some charcoal starters, some paint thinners and some dry cleaning solvents. 2.) Medium isoparaffinic product found. Some common examples include some charcoal starters, some copier toners and some paint thinners. 3.) No ignitable liquid found. 4.) No ignitable liquid found.
BLFANM	Analysis of Item 1 detected the presence of a medium petroleum distillate (examples: some charcoal starters, some paint thinners, etc.). Analysis of Item 2 detected the presence of a medium isoparaffinic product (examples: some paint thinners, some charcoal starters, etc.). Analysis of Items 3 and 4 failed to detect the presence of an ignitable liquid.
BNLG8E	Item#1 contains a medium petroleum distillate product. Some examples of a medium petroleum distillate product are some charcoal starters, some paint thinners and some dry cleaning solvents. Item#2 contains a medium Isoparaffinic product. Some examples of a medium Isoparaffinic product are some charcoal starters, some paint thinners and some copier toners. No ignitable liquids were detected in Items 3 and 4
BUT6KG	Analysis of Item 1 disclosed the presence of an ignitable liquid from the medium petroleum distillate class. Examples of this class include some charcoal starters, some paint thinners, and some dry cleaning solvents. Analysis of Item 2 disclosed the presence of an ignitable liquid from the medium isoparaffinic products class. Examples of this class include some charcoal starters, some paint thinners, and some copier toners. Analysis conducted on Item 3 and Item 4 did not identify the presence of an ignitable liquid. Items 1.1, 2.1, 3.1, 4.1 and BL1 have been retained in a packet labeled "Packet FDB1". This packet is being returned to the submitting agency.
BUWFT7	An ignitable liquid classified as a medium petroleum distillate was identified in Item 1. Examples of medium petroleum distillates include, but are not limited to, some charcoal lighter fluids. An ignitable liquid classified as a medium isoparaffinic product was identified in Item 2. Examples of medium isoparaffinic products include, but are not limited to, some specialty solvents. No recognizable ignitable liquids were identified in Item 3 or Item 4.
BV7QJH	Item 1.1 contained a medium petroleum distillate. Examples of which include some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 1.2 contained a medium isoparaffinic product. Examples of which include some charcoal starters, some paint thinners, and some copier toners. No ignitable liquids were detected in Item 1.3. No ignitable liquids were detected in Item 1.4.

TABLE 4

WebCode	Conclusions
C4C24T	Result: Sample 1: linear and branched alkanes in the range of C8 to C12, unsaturated Hydrocarbons, Cyclohexanes. Sample 2: branched alkanes in the range of C10 to C12, unsaturated Hydrocarbons. Result Assessment: Sample 1: An ignitable liquid was identified in Sample 1. It is a de-aromatized medium petroleum distillates. Such an ignitable liquid may be sold as e.g. an odourless white spirit. Sample 2: An ignitable liquid was identified in Sample 2. It is a medium isoparaffinic product. Such an ignitable liquid may be sold as e.g. lamp oil or thinner.
CEDL7L	Item 1 was analyzed by gas chromatography/mass spectrometry and determined to contain a medium Petroleum Distillate ASTM class ignitable liquid. Examples of this ASTM class are some charcoal started, paint thinners, and dry cleaning solvents. Item 2 was analyzed by gas chromatography/mass spectrometry and determined to contain a medium Isoparaffinic ASTM class ignitable liquid. Examples of this class are some charcoal starters, paint thinners, and copier toners. Items 3 and 4 were analyzed by gas chromatography/mass spectrometry; however, ignitable liquids could not be detected.
CG3TQH	Item 1. Medium petroleum distillate, examples of which are paint thinners, naphthas, dry cleaning solvents and some brands of charcoal starter fluids. Item 2. Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits.
CHEMAP	Exhibit 1 contained a medium petroleum distillate (MPD). Examples of MPD's include some paint thinners, some charcoal starters and some dry cleaning solvents. MPD's are ignitable liquids. Exhibit 2 contained a medium range isoparaffinic product. Examples of medium range isoparaffinic products include some paint thinners, some charcoal starters, and some copier toners. Isoparaffinic products are ignitable liquids. No ignitable liquids were identified in Exhibits 3 and 4.
CNXXFD	Two different ignitable liquids residues were recovered : a medium de-aromatized petroleum distillate in item 1, A medium de-aromatized petroleum distillate can come from some charcoal starters or some paint thinners. a medium isoparaffinic product in item 2. A medium isoparaffinic product can come from different products such as charcoal starters, paint thinners or copier toners.
CRPHVJ	Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1A) reveals the presence of a medium petroleum distillate (MPD). Examples of MPD's include: mineral spirits, some paint thinners, some charcoal starters, some torch fuels, some lamp oils, some dry cleaning solvents and some solvents for insecticides and polishes. Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1B) reveals the presence of an isoparaffinic product. Examples of isoparaffinic products include: some paint thinners, some charcoal starters, and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the wood (Item 1C) fails to reveal the presence of any ignitable liquids, including methanol, ethanol, isopropanol and acetone. Analysis by Gas Chromatography/Mass Spectrometry of the cloth (Item 1D) fails to reveal the presence of any ignitable liquids, including methanol, ethanol, isopropanol and acetone.
CUP39G	The analyses performed in our laboratory on Item 01 enabled the detection of a De-Aromatized Petroleum Distillate product (subclass medium). The analyses performed in our laboratory on Item 02 enabled the detection of a Isoparaffinic product (subclass medium).
CV2QY9	Item 1 - Cloth remnants - A medium petroleum distillate identified. Item 2 - Charred wood - A medium isoparaffinic product identified. Item 3 - Unburnt comparison wood - No volatile ignitable liquid identified. Item 4 - Comparison cloth - No volatile ignitable liquid identified. Medium petroleum distillates are volatile ignitable liquids. Mineral spirits, barbecue starter fluid, 'Varsol', some paint thinners and some products marketed as kerosene are examples of medium petroleum distillates. Medium isoparaffinic products are volatile ignitable liquids that may be found in some lamp oils, charcoal lighter fluids, paint thinners and copier toners.
CWX4JF	Item 1 was analyzed for the presence of ignitable liquid residues. A Medium Petroleum Distillate was detected. Examples include some charcoal starters and some paint thinners. Item 2 was analyzed for the presence of ignitable liquid residues. A Medium Isoparaffinic Product was detected. Examples include some charcoal starters and some paint thinners. Items 3 and 4 were control samples submitted for comparison purposes.
CXARYL	Laboratory item #1: A medium petroleum distillate was identified. Examples of medium petroleum

TABLE 4

WebCode	Conclusions
	distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Laboratory item #2: A medium isoparaffinic product was identified. Examples of medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners. Laboratory item #3 (Comparison Sample for laboratory item #2): No ignitable liquids were identified. Laboratory item #4 (Comparison Sample for laboratory item #1): No ignitable liquids were identified.
CY4HZU	A medium petroleum distillate was detected in Item 1. Medium petroleum distillates include, but are not limited to, some charcoal starters and lamp oils, mineral spirits, some wood treatments and preservatives, some paint and stain thinners and numerous other specialty application solvents and thinners. A medium isoparaffinic product was detected in Item 2. Medium isoparaffinic products include, but are not limited to, some charcoal starters and lamp oils, some mineral spirits substitutes, some wood treatments and preservatives and numerous other specialty application solvents and thinners. No ignitable liquids were detected in Items 3 or 4.
D4N8RG	Item 1 was a piece of fabric measuring approximately 5 cm by 5 cm. It was examined for the presence of ignitable liquid residues and found to contain medium petroleum distillates. Item 2 was a piece of charred wood measuring approximately 3.9 cm by 2.7 cm. It was examined for the presence of ignitable liquid residues and found to contain medium isoparaffinic products. No ignitable liquid residues were detected on Item 3 and Item 4 which were intended as comparison blanks for Item 2 and Item 1 respectively. Note: (1) Examples of commercial products containing medium petroleum distillates include charcoal starters, lamp oils, torch oils and paint thinners. (2) Examples of commercial products containing medium isoparaffinic products include charcoal starters, mineral spirits, specialty solvents and industrial solvents, copier toners.
DAXDDF	A Medium Petroleum Distillate had been recovered in Item 1. A Medium isoparaffinic product had been recovered in Item 2. item1 is different from item 2
DBQ8D6	A petroleum distillate in the medium range was identified in Item #1, examples of which include some charcoal starters, some paint thinners, and some dry cleaning solvents. A naphthenic - paraffinic product in the medium range was identified in Item #2, examples of which include some charcoal starters, some insecticide vehicles, and some lamp oils. There were no ignitable liquids identified in Item #3 or Item #4.
DCMMLV	[No Conclusions Reported.]
DLP3BZ	Sample 1: A medium (C8-C13) Petroleum Distillate was identified in the sample. Sample 2: A medium (C8-C13) Isoparaffinic Product was identified in the sample. Sample 3: No ignitable liquids/or ignitable liquid residues were identified in the sample. Sample 4: No ignitable liquids/or ignitable liquid residues were identified in the sample.
DM62T6	Items 1 through 4 were examined using passive headspace adsorption and gas chromatography/mass spectrometry. Item 1 was found to contain a volatile mixture identified as a medium petroleum distillate (MPD). Examples of such mixtures include some charcoal lighters, some paint thinners and some organic solvents. Item 2 was found to contain a volatile mixture identified as a medium isoparaffinic product (isopar). Examples of such mixtures include some charcoal lighters and some organic solvents. No common ignitable liquid residues were detected in Items 3 and 4. This does not preclude the possibility that an ignitable liquid may have been present at an earlier time.
DNE79E	[No Conclusions Reported.]
DUZBUP	There are accelerants in two places, therefore the fire is arson
DV2U8P	A medium petroleum distillate was identified in Item 1-1. Some examples of medium petroleum distillates would include some brands of charcoal lighter fluids, paint thinners, and mineral spirits. An isoparaffinic product was identified in Item 1-2. Some examples of isoparaffinic products would include some brands of paint thinners, charcoal lighter fluids, and specialty solvents. No ignitable liquids were detected in Item 1-3 and Item 1-4.
EC47X7	Traces of an organic mixture containing medium petroleum distillates were recovered from Item 1, the cloth remnant from the living room drapes. Traces of an organic mixture containing isoparaffinic

TABLE 4

WebCode	Conclusions
ECZJHD	products were recovered from Item 2, the charred portion of wood from the area by the front door. Item 1 contained a medium petroleum distillate. Examples of which include some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2 contained a medium isoparaffinic product. Examples of which include some charcoal starters, some paint thinners, and some copier toners.
EEPZNF	A medium petroleum distillate was detected in item 1. A medium isoparaffinic product was detected in item 2.
EGAZGF	Medium petroleum distillates (including De-Aromatized) in the range of C8 to C12 was identified in the Item 1. Example of commercial product that contain medium petroleum distillates products included some paint thinners, some charcoal starters and some dry cleaning solvents. Medium isoparaffinic products in the range of C10 to C12 was identified in the Item 2. Example of commercial product that contain medium isoparaffinic products included some paint thinners, some charcoal starters and some copier toners.
EM226A	Residues of a Medium petroleum distillate were identified on Item 1. Examples of medium petroleum distillates include some charcoal starters and some paint thinners. Residues of a medium isoparaffinic product was identified on Item 2. Examples of medium isoparaffinic products include some charcoal starters and some paint thinners. No ignitable liquid residues were identified on Items 3 and 4. Items 1 through 4 were examined using a passive adsorption/elution technique followed by analysis with gas chromatography-mass spectrometry (GC-MS). These items were also examined by heated headspace GC-MS.
EMVTF	A medium petroleum distillate was present in Item 1. Products in this range include but are not limited to some types of charcoal starters, paint thinners, mineral spirits and lamp oils. A medium isoparaffinic product was present in Item 2. Products in this range include, but are not limited to some types of paint thinners, charcoal starters and copier toners. No ignitable liquid residues were detected in the comparison samples, Items #3 and #4.
EP9GEZ	Item 1 was found to contain materials consistent with the composition of "Medium Petroleum Distillate" as defined by ASTM specification E1618-14. The term "Medium Petroleum Distillate" includes products such as paint thinners, mineral spirits, dry cleaning solvents, and charcoal starters containing mineral spirits. Item 2 was found to contain materials consistent with the composition of "Medium Isoparaffinic Products" as defined by ASTM specification E1618-14. The term "Isoparaffinic Products" includes products such as some charcoal starters, paint thinners, and some copier toners. Items 3 and 4 were comparison samples used for control purposes.
EPKZDC	Item 1.1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Petroleum Distillate. Examples of a Medium (C8-C13) Petroleum Distillate include some charcoal starters, some paint thinners, and some dry-cleaning solvents. Item 1.2: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Isoparaffinic Product. Examples of a Medium (C8-C13) Isoparaffinic Product include some charcoal starters, some paint thinners, and some copier toners. Item(s) 1.3 and 1.4: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified.
EPQ9P7	A vapour similar to a medium Petroleum distillate (C8-C12) was detected with item 1. A vapour similar to a medium Isoparaffinic product (C8-C12) was detected with item 2. Nothing of significance was detected with items 3 & 4
ERAGEX	Item #1 The item tested positive for the presence of a medium range petroleum distillate. Products in this classification include but are not limited to some charcoal starters, some paint thinners, & some dry cleaning solvents. The item was dearomatized. Item #2 The item was determined to be inconclusive for the presence of an ignitable liquid. This does not preclude the possibility that an ignitable liquid was present and consumed, environmentally altered or removed or otherwise indistinguishable from background materials.
EU36K9	A medium petroleum distillate, similar to mineral turpentine and white spirit was detected on the cloth remnant (Item 1). A medium isoparaffinic product, such as a lamp oil, charcoal starter or similar

TABLE 4

WebCode	Conclusions
	product, was detected on the charred wood (Item 2). No flammable liquid was detected on the unburned wood (Item 3) or the cloth substrate (Item 4). This may mean that there was no flammable liquid originally present or that any flammable liquid had evaporated to below the detectable levels.
F2G86F	Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1A) reveals the presence of a medium petroleum distillate (MPD). Examples of MPD's include: mineral spirits, some paint thinners, some charcoal starters, some torch fuels, some lamp oils, some dry cleaning solvents and some solvents for insecticides and polishes. Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1B) reveals the presence of an isoparaffinic product. Examples of isoparaffinic products include: some paint thinners, some charcoal starters, and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1C) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol, and acetone. Analysis by Gas Chromatography/Mass Spectrometry of the debris (Item 1D) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol, and acetone.
F4MYTM	Exhibit 1 contained a medium petroleum distillate (MPD), which is an ignitable liquid. Examples of MPDs include some paint thinners, some lamp oils and some dry-cleaning solvents. Exhibit 2 contained a medium isoparaffinic product, which is an ignitable liquid. Examples of isoparaffinic products include some paint thinners, some charcoal starters, and some lamp oils. No ignitable liquids were identified in exhibits 3 or 4.
F7C7DJ	Lab Item 1: Analysis confirmed a medium petroleum distillate. Lab Item 2: Analysis confirmed a medium isoparaffinic product. Lab Item 3: Submitted as a control sample and tested for substrate background products and interferences. Lab Item 4: Submitted as a control sample and tested for substrate background products and interferences
FB8XKF	Evidence addressed in this report was received into the laboratory on September 1, 2017. Analysis for ignitable liquid residues using Diffusive Flammable Liquid Extraction trapping, followed by Gas Chromatography / Mass Selective Detection: Item #1: Medium Petroleum Distillate, examples of which are (but not limited to) paint thinners, dry cleaning solvents and some brands of charcoal starter fluids. Item #2: Medium Petroleum Product (Isopar), examples of which are (but not limited to) odorless paint thinners, paint solvents / cleaners, wax removers, fabric / furniture protectors and some brands of charcoal starter fluids. Items #3 and #4: No Ignitable Liquid Residues Identified. All evidence will be returned to the submitter.
FCFAWQ	On analysis, I found that Item 1 was consistent with naphthenic paraffinic products (medium) while Item 2 was consistent with isoparaffinic products (medium).
FJZBGA	1. Analysis indicates the presence of a medium petroleum distillate. 2. Analysis indicates the presence of an isoparaffinic product.
FKB8PK	Item 1 - An ignitable liquid was detected and identified as a medium petroleum distillate (de-aromatized). An example of this type of liquid is an odorless charcoal lighter fluid. A vial containing a charcoal strip with the remaining vapor extract was sealed in with the evidence. Item 2 - An ignitable liquid was detected and identified as a medium isoparaffinic product. Examples of this product class are some charcoal starters, some paint thinners, and some copier toners. A vial containing a charcoal strip with the remaining vapor extract was sealed in with the evidence.
FRCEDZ	Medium range petroleum distillate residues were detected in Item 001-1. Medium range isoparaffinic product residues were detected in Item 001-2. No common ignitable liquid residues were detected in Item 001-3 or Item 001-4.
FRCH36	I formed the opinion that the cloth remnants from the living room drapes (item 1) contained medium petroleum distillate (de-aromatized) class ignitable liquid residues. Examples of medium petroleum distillate (de-aromatized) products include some formulations of the following: white/mineral spirits, low odour/mineral turpentine, charcoal starters, firelighters, lamp/torch oils, paint thinners and specialty solvents (such as dry cleaning solvents). I also formed the opinion that the charred timber from the front door area (item 2) contained medium isoparaffinic product class ignitable liquid residues. Examples of medium isoparaffinic products include some formulations of the following: charcoal starters, paint thinners, copier toners, cleaning agents and polishes/waxes. I further formed



TABLE 4

WebCode	Conclusions
	the opinion that the control timber and control cloth (items 3 and 4 respectively) did not contain any detectable ignitable liquid residues.
FTZPGN	A medium petroleum distillate was found in the following exhibit(s): 17[Participant Code]-01. A medium isoparaffinic product was found in the following exhibit(s): 17[Participant Code]-02. No ignitable liquid was determined in the following exhibit(s): 17[Participant Code]-03 and 17[Participant Code]-04
FXHYUD	Item 1 was determined to contain the following: A Medium Petroleum Distillate Ignitable Liquid, examples of which include some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2 was determined to contain the following: A Medium Isoparaffinic Products Ignitable Liquid, examples of which include some charcoal starters, some paint thinners and some drycleaning solvents.
FYNMNA	1) ITEM 1 is a flammable substance composed of linear alkanes, branched alkanes and cycloalkanes in the range C8-C13. This substance can be classified as a medium petroleum distillate. Examples of this distillate include some paint thinners, some charcoal starters and some specialty solvents. Medium petroleum distillate are also found in some shoe polish, wood treatment products, insecticides and automotive cleaner products. 2) ITEM 2 is a flammable substance composed of branched alkanes in the range C8-C13. This substance can be classified as a medium isoparaffinic product. Medium isoparaffinic product like that are found in some charcoal starters, some paint thinners and some wax removers. 3) The substance found on the ITEM 1 is different from that found on the ITEM 2. 4)No ignitable liquid were detected on ITEM 3 and ITEM 4.
FZJ9HZ	Item 1. A medium petroleum distillate was identified in the heat-sealed fire debris bag containing a piece of white cloth. Examples of medium petroleum distillates are some paint thinners, charcoal starters, and mineral spirits. Item 2. A medium isoparaffinic product was identified in the heat-sealed fire debris bag containing a piece of charred wood. Examples of medium isoparaffinic products are some paint thinners, charcoal starters and copier toners. Item 3. No ignitable liquids were identified in the heat-sealed fire debris bag containing a piece of uncharred wood. (comparison) Item 4. No ignitable liquids were identified in the heat-sealed fire debris bag containing a piece of white cloth. (comparison)
G74NJD	Exhibit 1 was analyzed and determined to contain a medium petroleum distillate. Examples of a medium petroleum distillate include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Exhibit 2 was analyzed and determined to contain a medium isoparaffinic product. Examples of medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, some copier toners, and some specialty solvents. Exhibits 3-4 (Comparison blanks) were each analyzed, and no common ignitable liquid residue was detected. This conclusion is based upon gas chromatography-mass spectrometry (GC-MS) analysis of concentrated headspace vapors from each sample. A reserve carbon strip containing concentrated headspace vapors from each sample was returned inside the original evidence containers.
G7RPTA	[No Conclusions Reported.]
G9TWQT	item (1) does not contain any ignitable petroleum distillates or accelerated. item (2) does not contain any ignitable petroleum distillates or accelerated. NOTE THAT in our local technical report the consideration of results is focusing on petroleum distillates and Gasoline classes mainly, because it is our major products of the local refinery which usually causes arson offenses accidents.
GBV47	Item #1 a Medium Petroleum Distillate was identified in this sample. Item #2 a Medium Isoparaffinic Product was identified in this sample. Item(s) #3 & 4: No ignitable liquid present.
GEFUBA	A Naphthenic Paraffinic products were detected in Item 1 and Isoparaffinic Products were detected in Item 2.
GFD4FD	1. Volatile residues from Exhibits 1 (cloth), 2 (wood), 3 (wood control), and 4 (cloth control) were collected using headspace sampling techniques and passive headspace concentration techniques and subsequently analyzed using gas chromatography-mass spectrometry (GC-MS) for the presence of ignitable liquid residues. 2. A medium petroleum distillate was identified in the headspace vapors of Exhibit 1. Ignitable liquids belonging to this class are commercially available as some paint thinners,

TABLE 4

WebCode	Conclusions
	some charcoal starters, and some dry cleaning solvents. 3. A medium range isoparaffinic product was identified in the headspace vapors of Exhibit 2. Ignitable liquids belonging to this class are commercially available as some paint thinners, some charcoal starters, and some copier toners. 4. No ignitable liquid residues were identified in the headspace vapors of Exhibits 3 or 4.
GFQRPR	On Item #1 (Cloth Remnant from Living Room Drapes) we detected the presence of a medium (C8-C13) naphthenic-paraffinic product. On Item #2 (Charred Portion of Wood from Area Near Front Door) we detected the presence of a medium (C8-C13) isoparaffinic product.
GKPXAN	On analysis, I found that: i) Item 1 containing traces of ignitable liquid of Petroleum Distillates (including De-Aromatized) class and medium (C8-C13) subclass. ii) Item 2 containing traces of ignitable liquid of Isoparaffinic Products class and medium (C8-C13) subclass. The above classification are based on the ASTM E1618-14, Ignitable Liquid Classification Scheme.
GMW8PZ	An ignitable liquid classified as a medium petroleum distillate was identified in Item 1. Examples of products that contain medium petroleum distillates include, but are not limited to, some charcoal lighter fluids. An ignitable liquid classified as a medium isoparaffinic was identified in Item 2. Examples of products that contain medium isoparaffinics include, but are not limited to, some paint thinners. No recognizable ignitable liquids were identified in Item 3 or Item 4.
GN3QGJ	Exhibit #1 contained a medium petroleum distillate Exhibit #2 contained a medium range miscellaneous product Exhibits #3 and 4 did not contain an ignitable liquid.
GZHQ2G	A medium petroleum distillate (MPD) was detected in Item 1. Medium petroleum distillates include, but are not limited to, some odorless paint thinners and some odorless charcoal starters. A medium isoparaffinic product was detected in Item 2. Medium isoparaffinic products include, but are not limited to, some odorless paint thinners. No ignitable liquid residues were detected in Items 3 and 4.
H6UPEV	A residue of a medium petroleum distillate was detected in Item 1. Examples of a medium petroleum distillate include some charcoal starters, some paint thinners, and some dry-cleaning solvents. A residue of a medium isoparaffinic product was detected in Item 2. Examples of isoparaffinic products include some charcoal starters, some paint thinners, and some copier toners. No ignitable liquids were detected in Item 3 or 4. The samples were extracted by passive adsorption-elution techniques and analyzed by gas chromatography with mass spectrometry.
H7HJF6	A medium petroleum distillate (MPD) was detected form Item #1. And a medium isoparaffinic product was identified in Item #2.
H8DVL7	RESULTS: An ignitable liquid, identified as a dearomatized medium petroleum product in the range of C10 to C12 was isolated on sample 1. Some examples of consumer products that may contain such a dearomatized medium petroleum product are, but are not limited to, mineral spirits, charcoal lighter fluid, and paint thinner; which may, or may not, be labeled as "odorless". An ignitable liquid, identified as medium isoparaffinic product in the range of C10 to C11 was isolated on sample 2. Some examples of consumer products that may contain such an isoparaffinic product are, but are not limited to, mineral spirits, charcoal lighter fluid, and copier toners; which may, or may not, be labeled as "odorless". Volatile chemical residues were isolated on samples 3 and 4. The volatile chemical residues isolated on samples 3 and 4 do not compare favorably to current laboratory standards of ignitable liquids. CONCLUSIONS: A foreign ignitable liquid was isolated on samples 1 and 2. The foreign ignitable liquid isolated on sample 1 has been identified as a dearomatized medium petroleum product. The foreign ignitable liquid isolated on sample 2 has been identified as a medium isoparaffinic product. No foreign ignitable liquids were isolated on samples 3 or 4.
H9BECD	Item 1: An ignitable liquid was detected. This liquid was identified as a medium petroleum distillate. An example of a liquid of this type would be an odorless charcoal lighter fluid. Item 2: An ignitable liquid was detected. This liquid was identified as an isoparaffinic product. An example of a liquid of this type would be a charcoal lighter fluid.
HEWENK	Exhibit 1 contained a medium petroleum distillate (MPD), which is an ignitable liquid. Examples of MPDs include mineral spirits, some paint thinners, and some charcoal starters. Exhibit 2 contained a medium isoparaffinic product, which is an ignitable liquid. Examples of this type of product include some paint thinners, some lamp oils, and some charcoal starters. No ignitable liquids were identified

TABLE 4

WebCode	Conclusions
	in Exhibit 3 or 4.
HG3L6R	Flammable liquids were detected in the samples labelled: Item 1 and Item 2. These substances were identified as petroleum distillates C8-C13 which are typical ingredients in commercial available petroleum-based products. The detected content of hydrocarbons in the two samples is NOT similar.
HGLK9G	Item 1 was found to contain a medium petroleum distillate. Examples include: some charcoal starters, some paint thinners, mineral spirits. Item 2 was found to contain a medium isoparaffinic product. Examples include: some charcoal starters, some paint thinners, some copier toners. Items 3 and 4 were used as controls.
HRKF7C	The above items [Table 1 - Ignitable Liquid Identification] were examined in accordance with [Laboratory] methods and procedures based upon ASTM International standard test methods and practices. The samples were extracted using passive headspace sampling and analyzed via gas chromatography – mass spectrometry. An extract generated from each item will be returned with the evidence (Items 1A, 2A, 3A, 4A). Item 1: An ignitable liquid residue was detected- a medium petroleum distillate. Medium petroleum distillates (MPDs) may originate from some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2: An ignitable liquid residue was detected- a medium isoparaffinic product. Medium isoparaffinic products may originate from some charcoal starters, some paint thinners, and some copier toners. Items 3 and 4: No ignitable liquid residues were detected. Item 3 was submitted as a comparison blank for Item 2. Item 4 was submitted as a comparison blank for Item 1.
HTQWAA	ITEM 1 Is a medium range petroleum distillate. Examples are paint thinners and charcoal starters. ITEM 2 Is a medium range naphthenic paraffinic product. Examples are charcoal starters and some lamp oils.
HVL9FB	The analysis performed on item 1 enabled the detection of a medium petroleum distillate (ex: some paint thinners, some charcoal lighter fluids, etc). The analysis performed on item 2 enabled the detection of an isoparaffin product (ex: some mineral spirits, some low odor paint thinners, etc). The analysis performed on items 3 and 4 were negative for accelerants and water soluble solvents.
J9KR7Z	Item 1 was subjected to adsorption-elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a medium petroleum distillate. Examples of this class of ignitable liquid include (but are not limited to): Some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2 was subjected to adsorption-elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a medium isoparaffinic product. Examples of this class of ignitable liquid could include (but are not limited to): some charcoal starters, some paint thinners and some dry cleaning solvents.
JFHGRB	Items 1, 2, 3, and 4 were analyzed by gas chromatography / mass spectrometry for the presence of ignitable liquids. Residues of a medium petroleum distillate were detected in item 1. Examples include some charcoal starters and some paint thinners. Residues of a medium isoparaffinic product were detected in item 2. Examples include some charcoal starters and some paint thinners. No ignitable liquids were detected in items 3 and 4.
JJ2EHM	On analysis, I found Item 1 to bear traces of Naphthenic Paraffinic Products - Medium Class. On analysis, I found Item 2 to bear traces of Isoparaffinic Products - Medium Class.
JJ49WL	A medium petroleum distillate was detected in Item 1. Medium petroleum distillates include, but are not limited to, some charcoal starters, mineral spirits, some paint and stain thinners and solvents, some wood preservatives and numerous other speciality application solvents and thinners. A medium isoparaffinic product was detected in Item 2. Medium isoparaffinic products include, but are not limited to, some mineral spirits, some brush cleaners, some upholstery cleaners, some lamp oils and numerous other speciality application solvents and thinners.
JKJEMX	Analysis of Item 1 revealed the presence of a medium petroleum distillate (MPD). Examples of this class are some charcoal starters, some paint thinners, and some dry cleaning solvents. Analysis of Item 2 revealed the presence of an isoparaffinic product. Examples of this class are some charcoal starters, some paint thinners, and some copier toners.

TABLE 4

WebCode	Conclusions
JLEYE4	Item 1: A de-aromatized medium petroleum distillate was detected in the contents of this item. These substances can occur in a variety of products, including some specialty solvents, cleaning and degreasing agents and some charcoal lighters. Item 2: Volatile substances, consisting predominantly of branched alkane hydrocarbons were detected in the contents of this item. These substances can occur in a variety of products, including some specialty solvents, firelighters and paint thinners. Item 3: The contents of this item were examined for the presence of ignitable liquid residues, and none were found. Item 4: The contents of this item were examined for the presence of ignitable liquid residues, and none were found.
JRGXY2	ITEM 1 contains alkanes from C9 to C12. The lighter could be mineral spirit, paint thinners, charcoal starter, torch fuel, lamp oil, dry cleaning, solvents...partially evaporated. ITEM 2 contains a mixture of naphtha compounds and alkanes c9-c12 iso. The lighter could be a solvent such as ISOPAR H (exxon mobil)
JRZ4YQ	Item 1 was analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). This item contains an ignitable liquid in the medium petroleum distillate class. Examples of products in the medium petroleum distillate class include some charcoal starters, paint thinners, lamp oils, torch fuels and dry cleaning solvents. Item 2 was analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). This item contains an ignitable liquid in the medium isoparaffinic class. Examples of medium isoparaffinic products include some charcoal starters, some paint thinners, and some copier toners.
JUN9ZB	Examination of item #1 revealed the presence of a medium petroleum distillate. Medium petroleum distillates include some charcoal starters and some paint thinners. Examination of item #2 revealed the presence of an isoparaffinic product. Isoparaffinic products include some charcoal starters and some paint thinners. Examination of items #3 and #4 failed to reveal the presence of ignitable liquids.
JXRZBW	A medium de-aromatized product was identified in item #1-1. Examples of products in this class may include some charcoal starters and paint thinners. A medium isoparaffinic product was identified in item #1-2. Examples of products in this class may include some charcoal lighters and paint thinners. No ignitable liquids were identified in item #1-3 or #1-4.
K3UQTT	The results of the examination extremely strongly support that Item 1 contains ignitable liquid, White Spirit type. The results of the examination extremely strongly support that Item 2 contains ignitable liquid, Charcoal Starter type.
K6KRWW	A medium range petroleum distillate residue was detected in Item 001-1. Examples of a medium range petroleum distillate can include some charcoal starters, paint thinners, and dry cleaning solvents. A medium range isoparaffinic product residue was detected in Item 001-2. Examples of a medium range isoparaffinic product can include some paint thinners, charcoal starters, and copier toners.
K828WM	A gas chromatography/mass spectrometry (GC/MS) analysis was performed on the extracts of item #'s 1 – 4. Analysis results indicate there was no presence of an ignitable liquid in item #'s 3 4. Analysis results indicate the presence of a medium de-aromatized petroleum distillate in item # 1 and a medium isoparaffinic in item #2.
K9FJT8	Item 1 was subjected to headspace technique followed by Gas Chromatography/Mass Spectrometric (GCMS) analysis shows presence of ignitable liquid residue of Naphthenic Paraffinic Products class and medium subclass. Item 2 was subjected to headspace technique followed by Gas Chromatography/Mass Spectrometric (GCMS) analysis shows presence of ignitable liquid residue of Isoparaffinic Products class and medium subclass.
KBPK3K	ITEM 1 TO BEAR THE RESIDUE OF NAPHTHENIC PARAFFINIC PRODUCTS IN MEDIUM SUBCLASS. ITEM 2 TO BEAR THE RESIDUE OF ISOPARAFFINIC PRODUCTS IN MEDIUM TO HEAVY SUBCLASS
KGE2CP	Based on analysis, I have found the Item 1 to bear traces of medium naphthenic paraffinic products while Item 2 to bear traces of heavy isoparaffinic products.
KGRT3L	The sample taken from item 1 was found to contain a residue of a medium petroleum distillate. (These would normally be typified by a white spirit based product and some paraffins). The sample taken from item 2 was found to contain a residue of a medium isoparaffinic product. Both of these would be

TABLE 4

WebCode	Conclusions
	considered as flammable liquids which could accelerate the course of a fire. The samples taken from items 3 and 4 did not contain a residue of a commonly encountered flammable liquid. If any samples or containers of fluid were found at the scene, they should now be forwarded to the laboratory for comparison.
KJWLWJ	1. A medium petroleum distillate was detected in Exhibit 1, uses of which include, but are not limited to, some charcoal starters, some paint thinners and some dry cleaning solvents. Medium petroleum distillates are ignitable liquids and could act as a fire accelerant. 2. A medium isoparaffinic product was detected in Exhibit 2, uses of which include, but are not limited to, some charcoal starters, some paint thinners and some copier toners. Medium isoparaffinic products are ignitable liquids and could act as a fire accelerant. 3. No ignitable liquid, or its residue, was detected in Exhibit 3 or 4.
KKYX7A	Analysis by Gas Chromatography/Mass Spectrometry of the cloth sample (Item 1) reveals the presence of a medium petroleum distillate (MPD). Examples of MPD's include: some charcoal starters, mineral spirits, some paint thinners, some torch fuels, some lamp oils, some dry cleaning solvents and some solvents for insecticides and polishes. Analysis by Gas Chromatography/Mass Spectrometry of the charred wood (Item 2) reveals the presence of a medium isoparaffinic product. Examples include: some paint thinners, some charcoal starters and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the wood comparison sample (Item 3) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol and acetone. Analysis by Gas Chromatography/Mass Spectrometry of the cloth comparison sample (Item 4) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol and acetone.
KMZC7K	I examined the items received and found: a) Item 1 to consist of cloth remnant from the living room which on analysis, i detected to presence of naphthenic paraffinic products (medium). b) Item 2 to consist of charred portion of wood from the area by the front door which on analysis, i detected to presence of isoparaffinic products (medium). c) Item 3 to consist unburned wood substrate which on analysis, i did not detect any ignitable product. d) Item 4 to consist cloth substrate which on analysis, i did not detect any ignitable product.
KPR7AF	Exhibit 1 contained a medium petroleum distillate, which is an ignitable liquid. Examples of medium petroleum distillates include some paint thinners and charcoal starters. Exhibit 2 contained a medium isoparaffinic product, which is an ignitable liquid. Examples of medium isoparaffinic products include some paint thinners and lamp oils. No ignitable liquids were detected in Exhibits 3 and 4.
KRWR49	1. Volatile residues from Exhibits 1 (cloth remnant from the living room drapes), 2 (charred portion of wood from the area by the front door), 3 (unburned wood substrate), and 4 (cloth substrate) were collected using simple heated headspace and passive headspace concentration techniques, and were analyzed using gas chromatography-mass spectrometry (GC-MS) for the presence of ignitable liquid residues. Exhibits 3 and 4 were analyzed as comparison blanks for Exhibits 2 and 1, respectively. 2. A medium petroleum distillate (MPD) was identified in the concentrated headspace vapors from Exhibit 1. Some examples of commercial products in this ignitable liquid classification would include some charcoal starters, paint thinners, and dry-cleaning solvents. 3. A medium-range isoparaffinic product was identified in the concentrated headspace vapors from Exhibit 2. Some example of commercial products in this ignitable liquid classification would include some charcoal starters, paint thinners, and copier toners. 4. No ignitable liquid residues were identified in the concentrated headspace vapors from Exhibits 3 or 4.
KTL6FY	Item 1 was found to contain a medium-range petroleum distillate. Examples of medium-range petroleum distillates include, but are not limited to, some charcoal starters and some paint thinners. Item 2 was found to contain a medium-range isoparaffinic product. Examples of medium-range isoparaffinic products include, but are not limited to, some charcoal starters and some paint thinners.
KXYQN7	Item 1 contains a medium petroleum distillate product. Some examples of a medium petroleum distillate product are some charcoal starters, some paint thinners and some dry cleaning products. Item 2 contains a medium isoparaffinic product. Some examples of a medium isoparaffinic product are some charcoal starters, some paint thinners and some copier toners. No ignitable liquids were detected in items 3 and 4.
L2YF9Q	Item 1A was analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). This item contains

TABLE 4

WebCode	Conclusions
	an ignitable liquid in the medium petroleum distillate class. Examples of products in the medium petroleum distillate class include some charcoal starters, paint thinners, lamp oils, torch fuels and dry cleaning solvents. Item 1B was analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). This item contains an ignitable liquid in the medium isoparaffinic class. Examples of medium isoparaffinic products include some charcoal starters, some paint thinners, and some copier toners. Items 1C and 1D were analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). No ignitable liquids were identified. It should be noted that ignitable liquids may evaporate or can be totally consumed during a fire. A negative finding of ignitable liquids does not preclude its presence during a fire.
L4NK64	These samples were analyzed using GC and GC/MS. Petroleum distillates in the medium range were identified in item 1 and isoparaffinic products in the medium range were identified in item 2.
LP4624	Analysis of Item 1 indicates the presence of a medium petroleum distillate. Analysis of Item 2 indicates the presence of an isoparaffinic product.
LPLGDH	Item 1, cloth remnant from the living room drapes, was identified as a Medium Petroleum Distillate (C9-C11). Examples of this includes mineral spirits and lighter fluids. Item 2, charred portion of wood from the area by the front door, was identified as a Medium Petroleum Distillate (C10-C11). An example of this includes thinners. No ignitable liquids were detected in Items 3 and Item 4.
LVRTUN	Item 1: An ignitable liquid classified as a medium petroleum distillate was detected. Examples of medium petroleum distillates include some charcoal starters and paint thinners. Item 2: An ignitable liquid classified as a medium isoparaffinic product was detected. Examples of medium isoparaffinic products include some paint thinners and charcoal starters. Items 3 and 4: An ignitable liquid was not detected.
M9UQ48	Item 1: Analysis revealed the presence of a medium petroleum distillate, examples of which include some charcoal starters, mineral spirits and paint thinners. Item 2: Results/Conclusions will be issued in a supplemental report upon the acquisition of a comparable reference ignitable liquid.
MCA9DB	1. Laboratory item #1: A medium petroleum distillate was identified. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. 2. Laboratory item #2: A medium isoparaffinic product was identified. Examples of medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners. 3. Laboratory items #3(Comparison sample for Laboratory item #2) and #4(Comparison sample for Laboratory item #1): No ignitable liquids were identified.
MDNNTX	A de-aromatized medium petroleum distillate was detected in the cloth remnant from the living room drapes (item 1). An isoparaffinic product was detected in the charred portion of wood from the area by the front door (item 2). Examples of de-aromatized medium petroleum distillates and isoparaffinic products could include some types of charcoal starters and paint thinners.
MHYQP2	Item #1- The presence of a medium petroleum distillate was detected. Item #2- The presence of a medium Isoparaffinic product was detected. Item #3 & #4- no ignitable liquids were detected.
MJGM8T	1. GC/MS analysis of submission #01 revealed the presence of a medium range naphthenic - paraffinic product. 2. GC/MS analysis of submission #02 revealed the presence of a medium range isoparaffinic product. 3. GC/MS analysis of submissions #03 and #04 failed to reveal a flammable liquid.
ML2JRD	Item 1 was found to contain a medium petroleum distillate. Examples include: some charcoal starters, some paint thinners, mineral spirits. Item 2 was found to contain a medium isoparaffinic product. Examples include: some charcoal starters, some paint thinners, some copier toners. Items 3 and 4 were used as controls.
MLY49K	Item 1: Analysis identified the presence of a medium petroleum distillate. Some examples of medium petroleum distillates include Klean Strip kerosene, some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2: Analysis identified the presence of a medium isoparaffinic product. Some examples of medium isoparaffinic products include some charcoal starters, some paint thinners and some copier toners. Items 3/4 (control samples): no IL detected.

TABLE 4

WebCode	Conclusions
MN7E6N	Item 1: An ignitable liquid classified as a medium petroleum distillate was detected. Examples of medium petroleum distillates include charcoal starters, paint thinners, or dry cleaning solvents. Item 2: An ignitable liquid classified as a medium isoparaffin was detected. Examples of medium isoparaffins include charcoal starters, paint thinners, or copier toners. Item 3: An ignitable liquid was not detected. Item 4: An ignitable liquid was not detected.
N2CK29	Evidence addressed in this report was received into the laboratory on the following date: September 1, 2017. Analysis for ignitable liquid residues by Diffusive Flammable Liquid Extraction trapping followed by Gas Chromatography / Mass Selective Detection: Item #1: Medium petroleum distillate. Examples of medium petroleum distillates include (but are not limited to) dry cleaning solvents, paint thinners, and some charcoal starters. Item #2: Medium petroleum product (isoparaffinic). Examples of medium petroleum products include (but are not limited to) some charcoal starters, paint thinners, and copier toners. Items #3 and #4: No ignitable liquid residues identified. All evidence will be returned to the submitter.
N727N2	Item 1 contains a medium petroleum distillate product. Some examples of a medium petroleum distillate product are some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2 contains a medium isoparaffinic product. Some examples of a medium isoparaffinic product are some charcoal starters, some paint thinners and some copier toners. Items 3 and 4 were used as comparison blanks.
N76PUC	A medium petroleum distillate (MPD) was identified in Item 1. Examples of MPDs include, but are not limited to, low-odor mineral spirits and low-odor charcoal starters. A medium isoparaffinic product was identified in Item 2. Examples of medium isoparaffinic products include, but are not limited to, low-odor paint thinner. No ignitable liquid residues were detected in Item 3 or in Item 4. Activated charcoal strips were used to collect volatile organic compounds for Items 1, 2, 3, and 4 with an adsorption/elution technique. The compounds were then analyzed with a gas chromatograph/ mass spectrometer (GC/MS). The charcoal strips used are contained in plastic vials and have each been repackaged inside the original item. Chemical Analysis performed includes: Gas Chromatography/Mass Spectrometry (GC/MS).
N9WNCW	Item 1 contained a medium petroleum distillate, in the range of C9-C12. Item 2 contained a medium isoparaffinic product, in the range of C9-C12. Item 3 was examined as a comparison sample for Item 2. Item 4 was examined as a comparison sample for Item 1.
NCM9PE	It was found that Item 1 included medium petroleum distillates, Item 2 included medium Isoparaffinic Products
NEVCL9	Item 1 was analyzed by GC/MS and determined to contain a medium Petroleum Distillate ASTM class ignitable liquid. Examples of this ASTM class are some charcoal starters and some paint thinners. Item 2 was analyzed by GC/MS and determined to contain a medium Isoparaffinic ASTM class ignitable liquid. Examples of this ASTM class are some charcoal starters and some paint thinners.
NJNCZ4	Examination of item #1 revealed the presence of a medium petroleum distillate. Medium petroleum distillates include some charcoal starters and some paint thinners. Examination of item #2 revealed the presence of an isoparaffinic product. Isoparaffinic products include some charcoal starters and some paint thinners. Examination of items #3 and #4 failed to reveal the presence of ignitable liquids.
NM9FC8	Item 1: A medium petroleum distillate found. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2: A medium isoparaffinic product found. Some examples of medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners. Item 3: No ignitable liquids of evidentiary value found. The volatile components found are consistent with products produced when natural or synthetic materials are subjected to heating or burning. Item 4: No ignitable liquids found.
NQ7T6Y	Item 1 (cloth remnant from the living room drapes) contains a medium petroleum distillate residue and item 2 (charred piece of wood from the area by the front door) contains a medium isoparaffinic residue. Medium petroleum distillates can include such products as some paint thinners, charcoal

TABLE 4

WebCode	Conclusions
	starters, and dry cleaning solvents, and medium isoparaffinics can include such products as some paint thinners, charcoal starters, and copier toners. No ignitable liquid residues were identified in items 3 and 4 (substrate samples)
NQMA3F	1) In the sample received and labeled as item 1, it was detected the presence of one mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Methods as Medium Petroleum Distillates (varsol and/or mineral spirit). 2) In the sample received and labeled as item 2, it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method. 3) In the sample received and labeled as item 3, it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method. 4) In the sample received and labeled as item 4, it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method. 5) Varsol and mineral spirit are ignitable liquids. Ignitable liquid may start or accelerate a fire.
NTULZ2	Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC/MS). A Medium Petroleum Distillate was identified. Examples of this type ignitable liquid include: some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC/MS). A Medium Isoparaffinic product was identified. Examples of this type ignitable liquid include: some charcoal starters, some paint thinners and some copier toners.
NY2R3Z	A medium petroleum distillate product was detected in the sample from Item 1. Examples of such a product would include some charcoal starters and paint thinners. A medium isoparaffinic product was detected in the sample from Item 2. Examples of such a product would include some charcoal starters and paint thinners. No ignitable liquids were identified in the sample from Item 3. No ignitable liquids were identified in the sample from Item 4.
P2MXUC	A medium-range petroleum distillate was detected in Item 1. Examples of medium-range petroleum distillates include some charcoal starters and some paint thinners. A medium-range isoparaffinic product was detected in Item 2. Examples of medium-range isoparaffinic products include some charcoal starters, some paint thinners, and some copier toners. No ignitable liquids were detected in Item 3 or Item 4.
P3J9TJ	item 1: Series of n-alkanes from n-nonane to n-dodecane with isoparaffinic compounds were detected. item 2: Almost exclusively of isoparaffins (near C11 and C12 of carbon number) were detected.
P4FVEM	Item 1 - Ignitable liquid residues containing a medium petroleum distillate. Medium petroleum distillates in this range include, but are not limited to, mineral spirits, some paint thinners, some charcoal starters, and some lamp oils. Item 2 - Ignitable liquid residues containing an isoparaffinic product. Isoparaffinic products in this range include, but are not limited to, low-odor solvents, some paint thinners, some charcoal lighter fluids, some charcoal starters, some polishes, paint, stain, and varnish transfer solvents, some lubricants, and some insect sprays. Item 3 - No ignitable liquid residues were detected. Item 4 - No ignitable liquid residues were detected.
P6AG7T	Item 1: a medium petroleum distillate, similar to mineral turpentine and white spirit, was detected on this sample. Item 2: a medium isoparaffinic product was detected on this sample, similar to a lamp oil, charcoal starter or comparable type product. Item 3 and Item 4: no flammable liquid was detected on these samples. The fact that flammable liquid was not detected may mean there was none present or any originally present may have evaporated to below the detectable level.
P6PULP	Items 1, 2, 3, and 4 were extracted using a passive adsorption-elution technique. The Item 1, 2, 3, and 4 extracts were examined using Gas Chromatography-Mass Spectrometry (GC-MS). The Item 1 extract contained a medium petroleum distillate which can be found in, but is not limited to, some charcoal starter fluids, paint thinners and mineral spirits. The Item 2 extract contained a medium isoparaffinic product which can be found in, but is not limited to, some paint thinners and lamp oils. No ignitable liquids were identified in the Item 3 or 4 extracts.
P72JT9	Analysis of Item 1 detected the presence of a medium petroleum distillate (dearomatized); examples: some paint thinners, some torch fuels, some charcoal starters, etc. Analysis of Item 2 detected the



TABLE 4

WebCode	Conclusions
	presence of a medium isoparaffinic product; examples: some paint thinners, some charcoal starters, some copier toners, etc. Analysis of Item 3 and Item 4 failed to detect the presence of an ignitable liquid. All items in Exhibit IL were initially extracted using direct, heated headspace sampling and then were further extracted by passive headspace adsorption onto activated charcoal strips. The extracts were analyzed by gas chromatography-mass spectrometry.
P7X2Q4	Item 1 was found to contain a de-aromatized medium petroleum distillate. Examples may include but are not limited to some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2 was found to contain a medium isoparaffinic product (a petroleum product). Examples may include but are not limited to some charcoal starters, some paint thinners, and some copier toners. No ignitable liquids were detected in items 3 and 4.
P8BPA4	Item 1 Medium Petroleum Distillate. Examples of which are paint thinners, naphthas, dry cleaning solvents and some brands of charcoal starter fluids. Item 2 Isoparaffinic Product. Examples of which are some brands of charcoal starter fluids, odorless mineral spirits and odorless paint thinners.
PF4VU4	A Medium Petroleum Distillate (De-Aromatized) was detected on Item #1. Examples of MPDs include some charcoal starters, and mineral or white spirits, which may be sold as "odourless" when the product is de-aromatized. A Medium Isoparaffinic was identified on Item #2. Examples of these products include some charcoal starters and paint thinners.
PHNVXQ	A medium petroleum distillate was detected in the extract of Item #1A. Examples of medium petroleum distillate includes some charcoal starters, some paint thinners, and some dry cleaning solvents. A medium isoparaffinic product was detected in the extract of Item #1B. Examples of medium isoparaffinic products include some specialty solvents, some charcoal starters, and some paint thinners. No ignitable liquids were detected in the extracts of Item #1C and #1D.
PPCLH2	Analysis of Item 1 revealed the presence of a medium petroleum distillate. Examples of medium petroleum distillates include some charcoal starters, some paint thinners or some dry cleaning solvents. Analysis of Item 2 revealed the presence of a medium naphthenic paraffinic petroleum product. Examples of medium naphthenic paraffinic petroleum products include some charcoal starters, some insecticide vehicles or some lamp oil.
PR2ZW3	Item 1 was analyzed for the presence of ignitable liquid residues. A Medium Petroleum Distillate was detected. Examples include some pain thinners, some mineral spirits, and some charcoal starters. Item 2 was analyzed for the presence of ignitable liquid residues. A Medium Isoparaffinic product was detected. Examples include some paint thinners, some lamp oils, and some charcoal starters. Items 3 and 4 were control samples submitted for comparison.
PTAWH8	A medium petroleum distillate was identified in Lab Item 1. A medium isoparaffinic product was identified in Lab Item 2. No ignitable liquids were identified in Lab Item 3 and Lab Item 4. Negative results do not preclude the possibility that ignitable liquids were present at the fire scene. (ASTM 1618-97 section 12.2). Samples of recovered materials from this case have been preserved with the evidence. Analysis method: Carbon trap followed by Gas Chromatography/Mass Spectrometry.
PXMTBN	Item #1 - Ignitable liquid residues in the range of a medium petroleum distillate. Products in this range include, but are not limited to, some types of kerosene, some charcoal starters, some lamp oils, and some polishes. Item #2 - Ignitable liquid residues in the range of an Isoparaffinic Product. Products in this range include, but are not limited to, some low- odor solvents, some paint thinners, some charcoal starters, some lubricants, some aviation fuels and some insecticides. Item #3 - No ignitable liquid residues were detected - Comparison sample. Item #4 - No ignitable liquid residues were detected - Comparison sample
PY28QK	Item 1: Volatile components have been identified which originate from a de-aromatized medium petroleum distillate. Item 2: Volatile components have been identified which originate from an isoparaffinic product.
Q2DKK4	Ignitable liquids were detected on both item 1 and item 2 and they are from the same class isoparaffinic (medium).
Q4UGL4	1. Volatile residues from Exhibits 1 (cloth remnant from living room drapes), 2 (charred portion of wood from area by the front door), 3 (unburned wood substrate control), and 4 (cloth substrate

TABLE 4

WebCode	Conclusions
	control) were collected using direct and passive headspace concentration techniques and analyzed using gas chromatography/mass spectrometry for the presence of ignitable liquid residues. 2. A medium range petroleum distillate was identified in the concentrated headspace vapors of Exhibit 1. Ignitable liquids belonging to this class are commercially available as some charcoal starters, some paint thinners, and some dry cleaning solvents. 3. A medium range isoparaffinic product was identified in the concentrated headspace vapors of Exhibit 2. Ignitable liquids belonging to this class are commercially available as some charcoal starters, some paint thinners, and some copier toners. 4. No ignitable liquid residues were identified in the concentrated headspace vapors of Exhibits 3 or 4.
QE8TT7	A medium petroleum distillate was identified in Item 1. A medium isoparaffinic product was identified in Item 2. No ignitable liquids were identified in Items 3 and 4. Samples of recovered materials from this case have been preserved with the evidence.
QP389C	[No Conclusions Reported.]
QP8EZ6	Evidence addressed in this report was received into the laboratory on the following date: September 1, 2017. Analysis for ignitable liquid residues by Diffusive Flammable Liquid Extraction trapping followed by Gas Chromatography / Mass Selective Detection: Item #1: Medium Petroleum Distillate, examples of which are paint thinners, dry cleaning solvents and some brands of charcoal starter fluids. Item #2: Medium Petroleum Product (Isoparaffinic), examples of which are, but not limited to, some paint thinners, copier toners and charcoal starter fluids. Items #3 and #4: No ignitable liquid residues identified. All evidence will be returned to the submitter. Ignitable liquid residues does not necessarily lead to the conclusion that a fire was incendiary in nature. In addition, negative results do not preclude the possibility that ignitable liquids were present.
QT48QF	Item 1 was found to bear traces of Petroleum Distillates (including De-Aromatized)(subclass: Light). Item 2 was found to bear traces of Isoparaffinic Products (subclass: Medium)
QV9V76	Description of Evidence: Item #1 – Sealed arson bag containing a cloth remnant from the living room drapes. Item #2 – Sealed arson bag containing a charred portion of wood from the area by the front door. Item #3 – Sealed arson bag containing an unburned substrate intended as a comparison blank. Item #4 – Sealed arson bag containing a cloth substrate intended as a comparison blank. Results/Opinions/Interpretations of Fire Debris Analysis: Item #1: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A medium petroleum product (e.g. charcoal starters, paint thinners, mineral spirits, etc.) was detected. Item #2: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A medium petroleum product (e.g. charcoal starters, paint thinners, mineral spirits, etc.) was detected. Item #3 and Item #4: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. The item was analyzed as a comparison sample. Disposition of Evidence: The unanalyzed portion of the activated charcoal strip is being returned to the submitting agency along with the rest of the original evidence.
QZ7CJY	A petroleum distillate in the medium range was identified in item 1. Examples of petroleum distillates in the medium range include, but are not limited to, some charcoal starters, some paint thinners and some dry cleaning solvents. An isoparaffinic product in the medium range was identified in item 2. Examples of isoparaffinic products in the medium range include, but are not limited to, some charcoal starters, some paint thinners and some copier toners. No ignitable liquid residues were identified in items 3 or 4.
R2H736	Item 1: Medium petroleum distillate ignitable liquid. Examples of medium petroleum distillates are some charcoal starters, some paint thinners, some mineral spirits and some dry cleaning solvents. Item 2: Medium isoparaffinic product ignitable liquid. Examples of medium isoparaffinic products are some charcoal starters, some paint thinners and some copier toners.

TABLE 4

WebCode	Conclusions
R82G9U	Item 1: A medium petroleum distillate was detected. Examples include: Mineral spirits, some paint thinners, some charcoal starters, some torch fuels, some solvents for insecticides and polish, and some lamp oils. Item 2: An isoparaffinic ignitable liquid was detected. Examples include: Isoparaffin specialty products, some charcoal starters, some copier fluids, some aviation fuels and some solvents for insecticides and polish. Item 3: Comparison Sample. Item 4: Comparison Sample
R9CKJW	Residues of a de-aromatized medium petroleum distillate (MPD) were identified on Item 1. Examples of some MPDs include some charcoal starter fluids, some paint thinners, and some dry cleaning solvents. Residues of a medium isoparaffinic product were identified on Item 2. Examples of medium isoparaffinic products are some charcoal starter fluids, some paint thinners, and some copier toners. No ignitable liquid residues were observed on Items 3 and 4. Items 1 through 4 were examined using a passive adsorption/elution technique followed by analysis with gas chromatography/mass spectrometry.
RBJVFZ	A medium petroleum distillate was detected in sample 1. A medium isoparaffinic product was detected in sample 2. No ignitable liquids were detected in samples 3 and 4. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Examples of isoparaffinic products include, but are not limited to, aviation gas, some charcoal starters, some paint thinners, some copier toners, and some commercial specialty solvents.
RCFDDV	Item 1: An ignitable liquid residue consistent with a medium petroleum distillate was identified in Item #1. Examples of the medium petroleum distillate class of ignitable liquids include mineral spirits, some paint thinners, some charcoal lighter fuels, some torch fuels, and some solvents for insecticides and polishes. Item 2: An ignitable liquid residue consistent with a medium isoparaffinic product was identified in Item #2. Examples of the isoparaffin class of ignitable liquids include some charcoal starters, some aviation fuels, some copier fluids, some lamp oils, some solvents for insecticides and polishes, and some camping fuels. Item 3: No ignitable liquid residues were detected in Item #3. Item 4: No ignitable liquid residues were detected in Item #4.
RFDJ92	Item 1, cloth remnant from the living room drapes was found to contain Medium Petroleum Distillate. According to ASTM E1618-14 Ignitable Liquid Classification Scheme, Examples of these Medium Petroleum Distillates include but are not limited to some charcoal starters, some paint thinners and some dry cleaning solvents. Item 2, charred portion of wood from the area by the front door was found to contain Medium Isoparaffinic products. According to ASTM E1618-14 Ignitable Liquid Classification Scheme, Examples of these Medium Isoparaffinic Products are some charcoal starters, some paint thinners and some copier toners. No ignitable liquids were detected in Item 3, unburned wood substrate intended as a comparison blank. No ignitable liquids were detected in Item 4, cloth substrate intended as a comparison blank.
RH6QG6	Item 1 was analyzed by gas chromatography/ mass spectrometry and determined to contain a medium Petroleum Distillate ASTM class ignitable liquid. Examples of this ASTM class are some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2 was analyzed by gas chromatography/ mass spectrometry and determined to contain a medium Isoparaffinic ASTM class ignitable liquid. Examples of this ASTM class are some charcoal starters, some paint thinners, and some copier toners. Items 3 and 4 were analyzed by gas chromatography/ mass spectrometry; however, ignitable liquids could not be detected.
RMXQY7	The evidence was received on September 8, 2017. The above item was extracted using passive adsorption/elution and analyzed using Gas Chromatograph/Flame Ionization Detector (GC/FID) and Gas Chromatograph/Mass Spectrometer (GC/MS). Item 1: Medium Petroleum Distillate residue was identified. Examples of this include but are not limited to some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2: Did not contain a substance which matched any of the comparable reference materials in the [Laboratory] Fire Debris library which includes samples from the eight major classes of ignitable liquids; therefore identification was not possible. If an appropriate reference material is submitted to the [Laboratory] additional analysis may be performed. Item 3: This item is listed as a control sample. This control sample was analyzed and the results were used in evaluating possible matrix influences on other submitted sample(s). No Ignitable Liquids were identified. Item 4: This item is listed as a control sample. This control sample was analyzed and the

TABLE 4

WebCode	Conclusions
	results were used in evaluating possible matrix influences on other submitted sample(s). No Ignitable Liquids were identified.
RPMXJ3	Examination of item #1 revealed the presence of a medium petroleum distillate. Medium petroleum distillates include some charcoal starters and some paint thinners. Examination of item #2 revealed the presence of an isoparaffinic product. Isoparaffinic products include some charcoal starters and some paint thinners. Examination of items #3 and #4 failed to reveal the presence of ignitable liquids.
RUUP7L	The volatile contents of Items 1, 2, 3 and 4 were extracted using a passive carbon adsorption/desorption technique and analyzed by gas chromatography - mass spectrometry (GC-MS). A medium petroleum was identified in Item 1, which includes but is not limited to some paint thinners, mineral spirits, and charcoal lighter fluids (Identification). A medium range isoparaffinic product was identified in Item 2, which includes but is not limited to some charcoal lighter fluids, some paint thinners, and some copier toners (Identification). There were no ignitable liquid residues identified in Items 3 or 4 (Not Identified).
RV7CXA	Item 1: A medium petroleum distillate (DMP) was detected. Examples of medium petroleum distillates are also found in some paint thinners and some dry cleaning solvents. Item 2: A medium isoparaffinic product was detected. Examples of medium isoparaffinic products are some paint thinners.
RWGDFZ	Examination: The evidence was examined from 9/6/17-9/7/17 utilizing gas-chromatography-mass spectrometry (GC-MS). The methods used are described in ASTM E1412-16 and ASTM E1618-14. Results of Analyses: Item 1: A medium range petroleum distillate (MPD) was identified in the sample. Examples of MPDs include but are not limited to some charcoal starters, some paint thinners and some cleaning products. Item 2: A medium range isoparaffinic product was identified in the sample. Examples of isoparaffinic products include but are not limited to some low odor solvents, some paint thinners and some cleaning products.
RWZ7K6	Item: 1 A medium petroleum distillate found. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Item: 2 A medium isoparaffinic product found. Some examples of medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners. Item: 3 No ignitable liquids found. Item: 4 No ignitable liquids found.
TCB7Z2	A de-aromatized medium petroleum distillate is indicated in item 1. Products that may be classified as medium petroleum distillates include, but are not limited to some charcoal starters, some paint thinners, and some dry cleaning solvents. De-aromatized products may be labeled as odorless. A medium isoparaffinic product is indicated in item 2. Products that may be classified as medium isoparaffinics include, but are not limited to some charcoal starters, some paint thinners, and some copier toners. No ignitable liquid residues were detected for items 3 and 4.
TEUBGC	IN BOTH ITEMS ARE DETECTED IGNITABLE LIQUIDS. IN ITEM 1 IS DETECTED PETROLEUM DESTILLATES AND IN ITEM 2 IS DETECTED ISOPARAFFINIC PRODUCTS.
TMCJ8U	ignitable 1 (MPD) and 2 (medium isoparaffinic) are different.
TQDKAC	Upon analysis I found 1. "Item 1" is bear traces of Naphthenic Paraffinic Products sub-class Medium. 2. "Item 2" is bear traces of Isoparaffinic Products sub-class Medium.
TXANU3	A medium petroleum distillate (C9-C12) was found in the item 1. Examples include, but are not limited to, some charcoal starters, industrial solvents or minerals spirits... A medium isoparaffinic product was detected in item2. Examples include, but are not limited to, some charcoal starters, odorless thinners, lamp oil or body oil... No ignitable liquid were detected in the item 3 and item 4.
TZHNK2	Analysis by Gas Chromatography/Mass Spectrometry of the cloth (Item 1A) reveals the presence of a medium petroleum distillate (MPD). Examples of MPD's include: mineral spirits, some paint thinners, some charcoal starters, some torch fuels, some lamp oils, some dry cleaning solvents and some solvents for insecticides and polishes. Analysis by Gas Chromatography/Mass Spectrometry of the charred wood (Item 1B) reveals the presence of a medium isoparaffinic product. Examples of isoparaffinic products include: some paint thinners, some charcoal starters, and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the wood (Item 1C) fails to reveal the

TABLE 4

WebCode	Conclusions
	presence of any ignitable liquids, including methanol, ethanol, isopropanol and acetone. Analysis by Gas Chromatography/Mass Spectrometry of the cloth (Item 1D) fails to reveal the presence of any ignitable liquids, including methanol, ethanol, isopropanol and acetone.
U6MYGZ	Items 1 and 2 were extracted by passive Solid phase microextraction (SPME) method with heating. The headspace above the sample adsorbed on the polymer-coated fused fiber was then analyzed by gas chromatography-mass spectrometry. A petroleum distillate (including De-Aromatized), which is an ignitable liquid, was detected in Item 1. The Analysis of item2, indicates the presence of a medium isoparaffinic products.
U7HEEQ	ON ANALYSIS, I FOUND THAT:- 1) ITEM 1 TO BEAR RESIDUES OF IGNITABLE LIQUID WHICH FALLS IN THE CLASS OF PETROLEUM DISTILLATES (SUBCLASS: MEDIUM). 2) ITEM 2 TO BEAR RESIDUES OF IGNITABLE LIQUID WHICH FALLS IN THE CLASS OF ISOPARAFFINIC PRODUCTS (SUBCLASS: MEDIUM)
U9CZ8G	In sample 1 was detected petroleum distillate (MPD), which is classified as ignitable liquid. Commercial products are for example mineral spirits, paint thinners and industrial solvents. In sample 2 was detected isoparaffinic product, which is classified as ignitable liquid. Commercial products are for example lampoils and some polish waxes and industrial solvents. Reference samples 3 and 4 were taken into account when making the interpretation.
UBFVNY	In "Item 1" a "Medium Petroleum Distillate" is present. This MPD is De-Aromatized. Ignitable liquids belonging to this class are sold and used as, for example, charcoal starters, paint thinners or dry cleaning solvents. In "Item 2" a "Medium Isoparaffinic Product" is present. Ignitable liquids belonging to this class are sold and used as, for example, charcoal starters, paint thinners and copier toners.
UBW2W3	Analysis of exhibit 001 revealed the presence of a medium petroleum distillate. Products in this range include, but are not limited to: mineral spirits, some paint thinners, some charcoal starters, "dry cleaning" solvents, some torch fuels, some solvents for insecticides and polishes, and some lamp oils. Analysis of exhibit 002 revealed the presence of an isoparaffin product. Products in this range include, but are not limited to: some charcoal starters, some copier fluids, some aviation gasoline, some lamp oils, some solvents for insecticides and polishes and some camping fuels. Analysis of exhibits 003 and 004 did not reveal the presence of any ignitable liquid residue. This result does not eliminate the possibility that an ignitable liquid was used.
UPD8YN	Item 1 was found to contain a medium petroleum distillate. Examples include some charcoal starters and some paint thinners. Item 2 was found to contain a medium isoparaffinic product. Examples include some charcoal starters and some paint thinners. Items 3 and 4 were analyzed for comparison purposes only.
UPXH34	A petroleum distillate in the medium range was identified in item 1. Examples of petroleum distillates in the medium range include, but are not limited to some charcoal starters, some paint thinners and some dry cleaning products. An isoparaffinic product in the medium range was identified in item 2. Examples of isoparaffinic products in the medium range include, but are not limited to some paint thinners, some charcoal starters and some copier toners. No ignitable liquid residues were identified in items 3 or 4.
UQ63LW	Analysis of Item 1 disclosed the presence of an ignitable liquid from the medium petroleum distillate class. Examples of this class include some charcoal starters, some paint thinners, and some dry cleaning solvents. Analysis of Item 2 disclosed the presence of an ignitable liquid from the medium isoparaffinic products class. Examples of this class include some charcoal starters, some paint thinners, and some copier toners. Analysis of Item 3 and Item 4 did not identify the presence of an ignitable liquid. This does not preclude the possibility that an ignitable liquid was present at an earlier time.
UWDLNW	Normal-alkanes with the characteristic cycloparaffin and isoparaffin components of typical distillates but with the aromatic compounds removed were detected in Item 1. That is, petroleum distillates(medium) were detected in Item 1. Branched chained alkanes were solely detected in Item 2. That is, isoparaffinic products(medium) were detected in Item 2.
V6PVU4	#1: An ignitable liquid was detected. The liquid was found to be a medium petroleum distillate.

TABLE 4

WebCode	Conclusions
	Examples of this distillate are odorless charcoal lighters. #2: An ignitable liquid was detected. The liquid was found to be an isoparaffinic medium petroleum distillate. Examples of this type of distillate would be specialty branched isoparaffinic hydrocarbons products such as pesticides and some charcoal lighters.
V894NX	An ignitable liquid residue classified as a medium petroleum distillate was detected in the cloth remnant from the living room drapes (item 1). Examples of a medium petroleum distillate product include: some charcoal starters, some paint thinners, some dry cleaning solvents. An ignitable liquid residue classified as a medium range isoparaffinic product was detected in the charred portion of wood from the area by the front door (item 2). Examples of medium range isoparaffinic products include: some charcoal starters, some paint thinners, some copier toners.
VEB7YP	Item 1 was subjected to adsorption-elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a medium petroleum distillate ignitable liquid. Examples of medium petroleum distillate ignitable liquids are but are not limited to: some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2 was subjected to adsorption-elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a medium isoparaffinic ignitable liquid. Examples of medium isoparaffinic ignitable liquids are but are not limited to: some charcoal starters, some paint thinners, and some dry cleaning solvents. Items 3 and 4 were subjected to adsorption-elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows no evidence of an ignitable liquid for both items.
VHT7GQ	An ignitable liquid in the medium petroleum distillate class was identified in Item 1. Examples of products in the medium petroleum distillate class include some charcoal starters, some paint thinners and some dry cleaning solvents. An ignitable liquid in the medium isoparaffinic class was identified in Item 2. Examples of products in the medium isoparaffinic class include some paint thinners, some charcoal starters and some copier toners. No ignitable liquids were identified in Items 3 and 4. This does not preclude the possibility that ignitable liquids were present. Ignitable liquids may evaporate or can be totally consumed in a fire.
VJ6Z2W	Instrumental analysis of exhibit #1 revealed medium petroleum distillate. Instrumental analysis of exhibit #2 revealed medium isoparaffinic product. No ignitable liquid was detected in exhibits #3 and 4 (comparisons).
VLU8LU	Item1 contained normal alkane ranging from C8 to C13 and also small amount of aromatics and cycloparaffins were present. Item2 was only composed of branched chained alkanes with no normal alkanes, cycloparaffins, and naphthalenes.
VM8WN7	Exhibit 1 contained a medium petroleum distillate (MPD) which is an ignitable liquid. Examples of MPDs include some charcoal starters, mineral spirits, and some paint thinners. Exhibit 2 contained a medium isoparaffinic product which is an ignitable liquid. Examples of these products include some charcoal starters, some lamp oils, and some specialty solvents. No ignitable liquids were detected in Exhibits 3 or 4.
VQPW78	A medium petroleum distillate was identified in Item 1-1. Some examples of medium petroleum distillates would include some brands of charcoal lighter fluids, paint thinners, and mineral spirits. An isoparaffinic product was identified in Item 1-2. Some examples of an isoparaffinic product would include some brands of kerosene, lighter fluid, and isopars. No ignitable liquids were detected in Item 1-3 and Item 1-4.
VTTPZ7	Exhibit 1 contained a medium petroleum distillate, which is an ignitable liquid. Examples of medium petroleum distillates include some paint thinners, some charcoal starters, and some mineral spirits. Exhibit 2 contained a medium isoparaffinic product, which is an ignitable liquid. Examples of medium isoparaffinic products include some lamp oils, some paint thinners, and some charcoal starters. No ignitable liquids were identified in Exhibits 3 and 4.
VXJBKD	[No Conclusions Reported.]
VZ6YYY	A de-aromatized medium petroleum distillate residue was detected within the nylon bag containing a piece of cloth remnant from the living room drapes (Item 1). Examples of this class of petroleum

TABLE 4

WebCode	Conclusions
	products includes some charcoal starters, some paint thinners, and some dry cleaning solvents. A medium isoparaffinic product residue was detected within the nylon bag containing a piece of charred wood from the area by the front door (Item 2). Examples of this class of petroleum products also includes some charcoal starters, some paint thinners, and some copier toners. No ignitable liquid residues were detected within the nylon bags containing a piece of unburned wood (Item 3) and a piece of an unburned cloth substrate (Item 4) that were submitted as comparison blanks.
W24DAX	[No Conclusions Reported.]
W8Q98V	It was determined utilizing passive headspace concentration extraction with activated charcoal strip and gas chromatography/mass spectrometry that item 1 exhibited the presence of a petroleum distillate in the medium range. It was determined utilizing passive headspace concentration extraction with activated charcoal strip and gas chromatography/mass spectrometry that item 2 exhibited the presence of an isoparaffinic product in the medium range.
W9J3PZ	We were found that Item 1 included medium petroleum distillates, Item 2 included medium isoparaffinic distillates
WCFR2Y	Item # 1 - Cloth Remnant: A de-aromatized medium petroleum distillate was detected in item #1. Examples of products that contain MPDs are some charcoal lighters, some paint thinners, and some dry cleaning solvents. Item # 2 - Charred Wood: A medium isoparaffinic product was found in item #2. Examples of isoparaffinic products in this range are some charcoal lighters, some paint thinners, and some copier toners.
WK93CU	Item 1.1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Petroleum Distillate. Examples of a Medium (C8-C13) Petroleum Distillate include some charcoal starters, some paint thinners, and some dry-cleaning solvents. Item 1.2: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Isoparaffinic Product. Examples of a Medium (C8-C13) Isoparaffinic Product include some charcoal starters, some paint thinners, and some copier toners. Item(s) 1.3 and 1.4: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified.
WKF3KB	On examination and analysis, I found that: (a) ITEM 1 was found to contain Naphthenic Paraffinic Product. (b) ITEM 2 was found to contain Isoparaffinic Product.
WTVWNJ	1: Analysis revealed the presence of a medium petroleum distillate, examples include paint thinners, mineral spirits, and some charcoal starter fluids. 3: No ignitable liquids were detected. 4: No ignitable liquids were detected. 2: Results will be issued in a supplemental report upon the acquisition of a suitable comparison reference ignitable liquid.
WZP42X	A medium petroleum distillate (MPD) was identified in Item 1. Examples of MPDs include some paint thinners, some charcoal starters and some lamp oils. MPDs are ignitable liquids. An isoparaffinic product in the medium range was identified in Item 2. Examples of isoparaffinic products in the medium range include some camping fuels, some charcoal starters and some paint thinners. Isoparaffinic products are ignitable liquids. No ignitable liquid was identified in the comparison samples of Items 3 and 4.
X39MEZ	1. Laboratory item #1: A medium petroleum distillate was identified. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners and some dry cleaning solvents. 2. Laboratory item #2: A medium isoparaffinic product was identified. Examples of medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners and some copier toners. 3. Laboratory item #3: No ignitable liquids identified. (Comparison Sample for Item #2) 4. Laboratory item #4: No ignitable liquids identified. (Comparison Sample for Item #1)
X4L8CG	A Medium Petroleum Distillate was detected in Item 1. Examples of medium petroleum distillates include some charcoal starters, some paint thinners and some dry-cleaning solvents. A Medium Isoparaffinic Product was detected in Item 2. Examples of medium isoparaffinic products include some charcoal starters, some paint thinners and some copier toners. No ignitable liquid residues were detected in Items 3 and 4 ("comparison blanks").

TABLE 4

WebCode	Conclusions
XBXB9H	A medium petroleum distillate was detected in the extract of Item #1. Medium petroleum distillates include some charcoal starters, some paint thinners, and some torch fuels. A medium isoparaffinic product was detected in the extract of Item 2. Medium isoparaffinic products include some industrial solvents, some charcoal starters, and some paint thinners. No ignitable liquids were detected in the extracts of Items #3 and #4.
XDPALF	The volatile contents of Items 1 - 4 were extracted using a passive carbon adsorption/elution technique and analyzed by gas chromatography - mass spectrometry (GC-MS). A medium petroleum distillate was identified in Item 1 (Identification). Examples include, but are not limited to, some charcoal starters, some paint thinners and mineral spirits. A medium isoparaffinic product was identified in Item 2 (Identification). Examples include, but are not limited to, some charcoal lighter fluids, some paint thinners, and some copier toners. No ignitable liquid residues were identified in Items 3 & 4 (Not Identified).
XFEF7D	Exhibit #1: Medium petroleum distillate, examples of which are paint thinners, mineral spirits, and some brands of charcoal starter fluids. Exhibit #2: Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits.
XJWPC7	Exhibit Description Results 01 Fabric Medium Petroleum Distillate 02 Burned Wood Medium Isoparaffinic Mixture 03 Wood Negative 04 Fabric Negative [Participant submitted data in a format that could not be reproduced in this report].
XLHHAR	These samples were analyzed using GC/MS. Petroleum distillates compounds in the medium range (C8 ~ C13) were identified in item 1, and isoparaffinic products were identified in item 2.
XN9L3Y	Item 1 was analyzed by gas chromatography/mass spectrometry and determined to contain a medium Petroleum Distillate ASTM class ignitable liquid. Examples of this ASTM class are some charcoal starters and some paint thinners. Item 2 was analyzed by gas chromatography/mass spectrometry and determined to contain a medium Isoparaffinic ASTM class ignitable liquid. Examples of this ASTM class are some charcoal starters and some paint thinners. Items 3 and 4 were analyzed by gas chromatography/mass spectrometry; however, ignitable liquids could not be detected.
XNENZK	[Laboratory] Item 1 contained FTS Item 1, Item 2, Item 3, and Item 4. Item 1 contained a medium petroleum distillate class ignitable liquid. Examples of medium petroleum distillate products include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2 appeared to contain an isoparaffinic product, however, this laboratory does not possess a comparable product, and, therefore, this could not be confirmed. No ignitable liquids were detected in Items 2, 3, or 4.
XPGXFU	The exhibit marked "Item 1" was found to be a piece of cloth-like material which was analysed for the presence of ignitable liquid residues and medium petroleum distillate was detected. The exhibit marked "Item 2" was found to be a piece of charred wood-like material which was analysed for the presence of ignitable liquid residues and medium isoparaffinic product was detected. The exhibit marked "Item 3" was submitted as a control to the exhibit marked "Item 2". It was found to be a piece of wood-like material which was analysed for the presence of ignitable liquid residues and none was detected. The exhibit marked "Item 4" was submitted as a control to the exhibit marked "Item 1". It was found to be a piece of cloth-like material which was analysed for the presence of ignitable liquid residues and none was detected. Note: 1. Examples of medium petroleum distillates include some charcoal starters, some paint thinners and some dry cleaning solvents. 2. Examples of medium isoparaffinic products include some charcoal starters and some paint thinners.
XUYXXV	Gas Chromatography-Mass Spectrometry (GC-MS) analysis of item 1 (cloth remnant from the living room drapes) and item 2 (Charred portion of wood from the area by the front door) revealed the presence of ignitable liquid in both items. No ignitable liquids were detected in item 3 (unburned wood) and item 4 (cloth). Item 1 : A medium de-aromatized petroleum distillate in the range of C9 to C12 was detected in Item 1. Some examples of products that may contain such medium de-aromatized petroleum distillate are, but are not limited to, some odorless paint thinners (and especially odorless mineral spirits), some charcoal lighters and some dry cleaning solvents. Item 2 : A medium isoparaffinic product was detected in Item 2. Some examples of products that may contain such medium isoparaffinic are, but are not limited to, some charcoal lighters, some odorless paint



TABLE 4

WebCode	Conclusions
	thinners, some furniture cleaners/waxes, some lamp oils, some surface coatings or some copier toners. Medium isoparaffinic are also found in some furniture cleaners/waxes or paints and coatings. The unburned wood matrix (item 3) doesn't contained interfering products. These products may be excluded. No substrate background products are present on the substrate prior to the fire.
XZ4W9K	An ignitable liquid residue classified as a medium-range petroleum distillate (MPD) was found in Item 1. Examples of commercially available products that may contain an MPD include, but are not limited to, charcoal lighter fluids and paint thinners. An ignitable liquid residue classified as a medium-range isoparaffinic petroleum product (isopar) was found in Item 2. Examples of commercially available products that may contain an isopar include, but are not limited to, charcoal lighter fluids and paint thinners. Item 3 and Item 4 were evaluated as comparison samples. No ignitable liquid residues were identified in them.
Y4HYQB	On analysis, I detected Medium Naphthenic Paraffinic products in Item 1 and Medium Isoparaffinic products in item 2
Y7LRK9	Yes my analysis i found that item 1 bear traces of Naphthenic Paraffinic Products and item 2 bear traces of Isoparaffinic Products.
YCFENV	Examination of item #1 revealed the presence of a medium petroleum distillate. Medium petroleum distillates include some charcoal starters and some paint thinners. Examination of item #2 revealed the presence of an isoparaffinic product. Isoparaffinic products include some charcoal starters and some paint thinners. Examination of items #3 and #4 failed to reveal the presence of ignitable liquids.
YQRZ4E	Gas chromatographic analysis (GCMS; heated headspace concentration (item #01-#04) and passive headspace concentration (item #01-#04)) of the submitted material yielded the following results & conclusions: Item #01- a medium petroleum distillate was identified. Examples of a medium petroleum distillates of the type detected, include some paint thinners, and some mineral spirits. Item #02 - a medium isoparaffinic product was identified. Examples of medium isoparaffinic products of the type detected include some solvent cleaners, some charcoal lighter fluids, and some industrial solvents. Items #03 & #04- No ignitable liquid residue was identified.
YRMFHW	Item #1: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A medium petroleum distillate was identified in item #1. Examples of this type of product include some types of charcoal starters, paint thinners, and mineral spirits. Item #2: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A medium isoparaffinic product was identified in item #2. Examples of this type of product include some types of charcoal starters, paint thinners, and copier toners. Items #3 and #4: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. Items #3 and #4 were analyzed as comparison samples. No ignitable liquid residues were detected.
YUWQAU	Sample of Item #1 was positive for the presence of residues as Medium Petroleum Distillates. Item #2 was found to be positive for the presense of Isoparaffins.
YZYWMB	Item 1A was analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). This item contains an ignitable liquid in the medium petroleum distillate class. Examples of products in the medium petroleum distillate class include some charcoal starters, paint thinners, lamp oils, torch fuels and dry cleaning solvents. Item 1B was analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). This item contains an ignitable liquid in the medium isoparaffinic class. Examples of medium isoparaffinic products include some charcoal starters, some paint thinners, and some copier toners.
Z6AXWL	Medium Petroleum Distillate identified in item 1. Medium Isoparaffinic Product identified in item 2. No volatile ignitable liquids identified in items 3 and 4.

TABLE 4

WebCode	Conclusions
Z6L4MV	Item #1 and #2: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A medium petroleum product (e.g. charcoal starters, paint thinners, mineral spirits, etc.) was detected. Item #3 and #4: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. The item was analyzed as a comparison sample.
ZGHXD8	Cloth remnant from the living room drapes sealed in nylon evidence bag (Item 1) was found to contain medium petroleum distillates (C8-C12) mainly contains n-alkanes, branched alkanes and cycloalkanes which are similar to components found in some charcoal starters. Charred portion of wood from the area by the front door sealed in a nylon evidence bag (Item 2) did not contain any component that fit any of ignitable liquid classes.
ZGLQZL	Item 001 contained a piece of unburnt fabric, a de-aromatised medium petroleum distillate was detected from the item. Petroleum distillate products have a variety of uses including paint thinners, dry cleaning solvents and charcoal starters. Item 002 contained a piece of charred wood, a medium isoparaffinic product was detected from the item. Isoparaffinic products have a variety of uses including paint thinners, copier toners and charcoal starters. Item 003 contained a piece of unburnt wood, no ignitable liquid residues were detected from the item. Item 004 contained a piece of unburnt fabric, no ignitable liquid residues were detected from the item.
ZJ8JQV	A medium Petroleum Distillate (C9 - C12) was found in Item 1. In Item 2, Isoparaffinic Products (C10 - C12) were found.
ZNLZRA	Item 1 consists of one piece of white cloth. The extract of Item 1 contained an ignitable liquid identified as a medium petroleum distillate. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Item 2 consists of one piece of charred wood. The extract of Item 2 contained an ignitable liquid identified as a medium isoparaffinic product. Examples of medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners. Item 3 consists of one piece of wood. No ignitable liquids were identified in the extract from Item 3. Item 3 was used in conjunction with Item 2, for comparison purposes. Item 4 consists of one piece of white cloth. No ignitable liquids were identified in the extract from Item 4. Item 4 was used in conjunction with Exhibit 281, for comparison purposes.
ZPEQTT	Analysis of Item 1, a section of cloth recovered from the living room, detected the presence of a de-aromatised Medium Petroleum Distillate (MPD), similar to some low-odour white spirits and some low-odour charcoal lighting fluids previously seen at this laboratory. This indicates that this item has come into contact with such a liquid. Nothing of significance was detected on the control cloth sample, item 4. MPDs are a class of ignitable liquids that include white spirit, some turpentine substitutes and other solvents marketed as brush cleaners. De-aromatised petroleum distillates are often marketed as 'low-odour'. Analysis of Item 2, charred wood recovered from near to the front door, detected the presence of a Medium Isoparaffinic product; similar products can include solvents and lamp oils. This indicates that this item has come into contact with such a liquid. Nothing of significance was detected on the control wood sample, item 3. In my view, the ignitable liquid residues detected on Items 1 and 2 do not have a common origin and do not originate from either of the substrates.
ZVGW7A	Item 1- Medium petroleum distillate, examples of which are paint thinners, mineral spirits, and some brands of charcoal starter fluids. Item 2- Medium isoparaffinic product, examples of which are some charcoal starters, some paint thinners, and some copier toners.
ZWW7V	The above items [Table 1 - Ignitable Liquid Identification] were examined in accordance with [Laboratory] methods and procedures based upon ASTM International standard test methods and practices. The samples were extracted using passive headspace sampling and analyzed via gas chromatography – mass spectrometry. An extract generated from each item will be retained with the evidence (Items 1A, 2A, 3A, and 4A). Item 1: An ignitable liquid residue was detected – a medium

TABLE 4

WebCode	Conclusions
	<p>petroleum distillate (MPD). Medium petroleum distillates may originate from some charcoal starters, some paint thinners, and mineral spirits. Item 2: An ignitable liquid residue was detected – a medium isoparaffinic product. Medium isoparaffinic products may originate from some charcoal starters and some paint thinners. Item 3: No ignitable liquid residues were detected. Item 3 was submitted as a comparison sample for Item 2. Item 4: No ignitable liquid residues were detected. Item 4 was submitted as a comparison sample for Item 1.</p>

## Additional Comments

TABLE 5

WebCode	Additional Comments
2FJBV3	The signals of the light aromatic products detected in item 3, are not observed in a defined way (defined and abundant peaks) in item 2. The pattern observed in the profile of aromatic ions, are characteristic of the substance detected in item 2. Both the Item 3 and Item 4, it was detected the chromatographic peak of nylon(sample container material).
39FNJT	Note: The identification of an ignitable residue from the fire debris from a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence liquid residues. Our laboratory is situated in [Continent], and we don't have so standard samples, of which chromatograms could be fit exactly with those chromatograms which resulted the testing of Item#1 and Item#2, so we can not identify the commercial product we have found in the mentioned items.
3L4R44	A medium petroleum distillate was observed in item 1. A medium isoparaffinic product was observed in item 2. No ignitable liquid residues were observed in items 3 and 4. The presence of an ignitable liquid residue in items 1 and 2 does not in and of itself indicate an incendiary fire. The results do not eliminate the possibility that an ignitable liquid was present at the incident in question for items 3 and 4.
3ULX6G	Items 3 and 4 were stated to be comparison samples. No ignitable liquid residues were detected in either of these items.
3UV9FT	Item 1: Medium-range petroleum distillates (MPDs) are products of crude oil distillation and are ignitable liquids. Examples of MPDs include, but are not limited to: charcoal starters, paint thinners, dry cleaning solvents, white spirits, cleaning solutions, and mineral turpentine products. Item 2: branched alkane products (BAPs), also known as isoparaffinic products, are highly refined petroleum products and are ignitable liquids. Examples of BAPs include, but are not limited to: aviation fuels, commercial and industrial solvents, charcoal starters, paint thinners, copier toners, lighter fluids, and some vehicle fluids.
4L2ARQ	Examples of a medium petroleum distillate may include but are not limited to some charcoal starters, some paint thinners, and some dry cleaning solvents. Examples of a medium isoparaffinic product include but are not limited to some charcoal starters, some paint thinners, some copier toners, and some specialty cleaning solvents.
4NRDKX	This was a good grouping of potential products. The isoparaffinic product in Item 2 was as bit esoteric for an isoparaffinic product. It may have been better to use a mainstream product even if it were a bit less common such as an ISOPAR M or ISOPAR V.
4R79ZV	No available reference material. Where can we buy this product?
4YDF3T	Analysis of Items 3 and 4 did not reveal the presence of any ignitable liquid residue.
72AZNF	Although ignitable liquid types or classes have been nominated, it must be noted that some commercial products incorporate similar liquids into their products – either within their specific formulation (e.g. degreasers, carburettor cleaners, etc), or as “carrier” for the key compounds (e.g. some aerosol or liquid products). Dynamic headspace sampling at room temperature may discriminate against the identification of heavier hydrocarbons.
7A2KNM	The Item 1 sample appears to be de-aromatized.
7F4NJM	The absence of an ignitable liquid does not rule out the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background material.
7M9DA8	The identification of an ignitable liquid in an item does not necessarily lead to the conclusion that a fire was deliberately set. The submitted item(s) have been extracted/concentrated using activated carbon strip or diluted, and have been analyzed by gas chromatography-mass spectrometry (GC-MS), which is a standard instrumental technique.

TABLE 5

WebCode	Additional Comments
7ULEHP	Conclusions and caveats below are based on ASTM 1618-14. The identification of an ignitable liquid residue in a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials. Details of analysis may be provided upon request.
7WBK3L	The identification of an ignitable liquid / ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. The absence of an ignitable liquid / ignitable liquid residue does not preclude the possibility that ignitable liquids were present.
84V6WD	This laboratory does not use the ASTM classification scheme. Products characteristic of the ignitable liquids found in items 1 and 2 were not available at the time of testing.
8NDJ7T	Headspace of the items was directly injected into the gas chromatograph/mass spectrometer (GC/MS). After the headspace analysis, activated charcoal strips were used to collect any volatile organic compounds with an adsorption/elution technique. The compounds were then analyzed with a gas chromatograph/mass spectrometer. The charcoal strips used are contained in plastic vials and have each been repackaged inside the original item.
8VH3PR	1. The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues.
8Z9LKW	For #2, there was no single reference standard in either our collection or on the ILRC which fully matched. There were standard references which had portions of the pattern match the unknown. The fact that #2 only contained branched alkanes and nothing else along with the partial matches for reference standards pushed the identification to isoparaffinic.
9BKBUJ	Medium ranged petroleum distillates would included but are not limited to paint thinners and torch fuels. Medium ranged naphthenic paraffinic products would included but are not limited to some charcoal starters.
9FUNFQ	The [Laboratory] views 'comparison' samples submitted alongside evidence as 'exemplar' samples. "Control" samples are defined as substrates/matrices in their original/sterile or unpackaged form (i.e. unopen gauze swab, etc). "Exemplars" are examples of substrates/matrices, from the crime scene itself; the intention of which is to give the [Laboratory] an 'elimination example' of the various substrates/matrices. The lab does NOT require exemplars and makes this distinction as there is a possibility of contamination of these exemplars from the scene. The [Laboratory] does NOT perform 'comparisons': defined as a known sample of an ignitable (or swab of a suspected 'known') submitted in order to compare it to results of other evidence/debris in the same case. Lastly, the [Laboratory] protocol requires a known reference sample in identifying a positive result. The [Laboratory] was able to locate an isoparaffinic product in the reference sample library that closely matched item #2. However, IF the [Laboratory] had NOT been able to locate a matching sample, the default result would have been "No Standard" since it meets criteria for a known ignitable BUT a known reference sample was not located.
9JJN4K	With the report we include a sheet with examples of products for each classification.
9W644D	Both products have very similar fields of use. However they are different in chemical composition. According to the test scenario, Item 1 : the flammable liquid highlighted is not compatible with the sample nature ("Cloth remnant from the living room drapes"). Item 2 : the flammable liquid highlighted may be compatible with the sample nature ("Charred portion of wood from the area by the front door"). In which case it could come from a wood treatment product. However, this hypothesis is not considered here since the oil cut is not highlighted in the control sample (item 3).
9X2E22	It seems that items 1 and 2 have different sources.
9XZVQK	Disclaimer: The absence of an ignitable liquid does not rule out the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated,

TABLE 5

WebCode	Additional Comments
	been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background material.
A9CC3P	The components produced from the analysis of Item 2 indicated that they were, for the most part, isomers of alkanes, which isoparaffins are. Although this product does not match the classic "Isopar" products its component composition is comprised of the same type of compounds which are present in isoparaffins. The component pattern falls within the gap between "Isopar H" and "Isopar K" Research of the literature available indicates the presence of a product known as "Isopar J" which, deductive reasoning would suggest that, this product would elute between "H" and "K" Exhaustive efforts to locate a sample of "Isopar J" for comparison failed
B689PT	There were no complete matches to #2 in our reference standard library. There were some partial matches to the TIC of both Isoparaffinic and Naphthenic/Paraffinic reference standards. However, the unknown, #2, was carefully examined and found to be almost exclusively composed of branched alkanes and there were no significant cycloalkanes, aromatics, or condensed ring compounds present. Based on the chemistry of the material, a determination of an Isoparaffinic product was the only valid conclusion.
BBB82J	However, it is important to ruled out innocently presence of above ignitable liquid [Table 4 - Conclusions] prior to come to the conclusion of arson.
C4C24T	The samples have not been tested for oil.
CRPHVJ	Item 1A above [Table 4 - Conclusions] is agency item 1. Item 1B above is agency item 2. Item 1C above is agency item 3. Item 1D above is agency item 4
CV2QY9	Results normally reported in a tabular format (simplified above [Table 4 - Conclusions] to prevent formatting errors) ITEM DESCRIPTION RESULTS 1 Cloth remnant from A medium petroleum distillate identified. living room drapes. 2 Charred portion of A medium isoparaffinic product identified. wood from the area by the front door. 3 Unburnt comparison No volatile ignitable liquid identified. wood substrate for item 2. 4 Comparison cloth No volatile ignitable liquid identified. fabric for item 1. [Participant submitted data in a format that could not be reproduced in this report].
CXARYL	Qualifier: The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues.
D4N8RG	Consider using substrates that produce pyrolysis products when burnt to simulate a more realistic testing environment commonly encountered at fire scenes. The presence of pyrolysis products will help to assess the examiner's ability to differentiate ignitable liquid residues from pyrolysis products.
EPKZDC	The identification of an ignitable liquid / ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. The absence of an ignitable liquid / ignitable liquid residue does not preclude the possibility that ignitable liquids were present.
EPQ9P7	Items 3 & 4 showed no matrix effects and were negative. In future tests we would prefer additional headspace with each item
ERAGEX	Item #2 Although isoalkane products were detected, no reference material for comparison could be located. Over 20 reference products were analyzed, none of which had similar characteristics. According to our SOP & ASTM 1618 Guidelines an identification of an ignitable liquid cannot be determined with out a comparable reference material (section 9.3.2.3)
F2G86F	Item 1A is CTS item 1. Item 1B is CTS item 2. Item 1C is CTS item 3. Item 1D is CTS item 4
F4MYTM	Our laboratory had to order a reference from the ILRC in order to identify the isopar in exhibit 2. None of our reference ILs had the same pattern.
FB8XKF	Ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. In addition, negative results do not preclude the possibility that ignitable liquids were present.
FKB8PK	No good reference found for Item 2; very interested in finding out what product was used.
FRCH36	** Noted significantly diminished (almost absent) levels of aromatic compounds in item 1 (aromatics

TABLE 5

WebCode	Additional Comments
	EIC supports).
FTZPGN	The MPD was de-aromatized. There were no good matches for the isoparaffinic product either in our library or a cross-reference to the ILRC database (NCFS/UCF). Portions of the TIC and profiles were OK, but the final determination was made because the only compounds present were branched alkanes.
FXHYUD	Item 1 is a De-aromatized Medium Petroleum Distillate Ignitable Liquid.
FYNMNA	The presence of these flammable substances in a living room is extremely suspicious, unless investigations can explain why there are there.
G9TWQT	item (1) contains hydrocarbons (Alkanes) ranged from(C9-C12). item (2 ) contains hydrocarbons (Alkanes) ranged from ( C10-C12)
GKPXAN	On analysis, I did not detected any ignitable liquid in Item 3 and Item 4.
GN3QGJ	Exhibit # 2 was compared to both isoparaffinic and naphthenic/paraffinic reference standards, but did not match any. It also did not match standards on the ILRC database. While the mixture appeared to be composed mostly of isoparaffins, some of the mass spectra were not as clear as I would prefer. That fact and no clear reference standard compelled me to call it a Miscellaneous.
GZHQ2G	Activated charcoal strips were used to collect volatile organic compounds with an adsorption/elution technique. The compounds were then analyzed with a gas chromatograph/mass spectrometer (GC/MS). The charcoal strips used are contained in plastic vials and each was repackaged inside the original item. Chemical Analysis performed includes: Gas Chromatography/Mass Spectrometry (GC/MS).
H8DVL7	There were multiple droplets of liquid visible within the inner nylon bag of sample 1 that were no longer absorbed on the cloth swatch upon receipt. Prior to opening the bag, moved the swatch around to try to soak up the liquid - it is possible that some materials were lost due to this. The possibility exists that the results could be skewed.
HEWENK	There was so much ignitable liquid added to Exhibit 1, that the interior of the bag was coated with liquid. While I understand there are many samples to prepare, care should be taken to spike the liquid directly on the substrate, as this may have a different affect on the data than just on the bag. Also, ignitable liquids chosen for this type of proficiency should not be so uncommon that only one such reference exists and must be purchased from the ILRC.
HG3L6R	No flammable liquids were detected in the sample labelled: Item 3 and Item 4.
J9KR7Z	Four laboratory glass vials were repackaged with the evidence. The presence of ignitable liquids in Item 1 and Item 2 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids.
K3UQTT	Examples of White Spirit products: Paint Thinner, Charcoal Starter, Lamp Oil. Examples of Charcoal Starter products: Charcoal Starter, Lamp Oil.
KGE2CP	Item 3 and Item 4 do not contain any ignitable liquids.
KMZC7K	The presence of naphthenic paraffinic products (medium) detected on item 1 and isoparaffinic products (medium)detected on item 2.
KTL6FY	Items 3 and 4 were listed as comparison samples. No ignitable liquids were detected in these items.
LVRTUN	For archival purposes, the unused carbon strips for items 1-4 and an empty nylon bag were booked as item 5 under this DR.
MCA9DB	1. The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. 2. Evidence listed on invoice #Q112120 will be forwarded to the [Division] for storage.
NQMA3F	The Medium Petroleum Distillates detected on the sample received and labeled as item 1, has a carbon number range between C9 – C12. In the Items 3 and 4 also it was detected the

TABLE 5

WebCode	Additional Comments
	chromatograph peak of Nylon (sample container material described as nylon evidence bag).
NY2R3Z	Analysis was performed using gas chromatography with mass spectrometry (GC-MS).
P2MXUC	Our laboratory wouldn't normally accept this submission due to storage in nylon bags. Evidence is much less to undergo deleterious change in metal cans.
P4FVEM	Item 3 - Comparison sample. Item 4 - Comparison sample
P8BPA4	Item 3 was used for comparison to Item 2. Item 4 was used for comparison to Item 1.
QZ7CJY	Items 1, 2, 3 and 4 were extracted using a passive adsorption-elution technique and were analyzed using gas chromatography/mass spectrometry (GC/MS). Both the analyzed and unanalyzed portions of the charcoal strips will be returned to the submitting agency along with the original evidence. Identification of an ignitable liquid in a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residue. It is noted that many ignitable liquids are very volatile and may be lost through evaporation, totally consumed during a fire, environmentally altered, or indistinguishable from background materials. A negative result does not preclude the possibility that ignitable liquids were present in the sample.
RBJVFZ	Failure to identify an ignitable liquid in any samples of fire debris should not be interpreted to mean that an ignitable liquid could not have been present. It means only that none could be recovered from the debris and or detected during analysis. These opinions are based upon my knowledge, skills, experience, training, education and personal observations as well as facts and data perceived by or made known to me, which facts and data are of the type reasonably relied upon by experts in my particular field in forming opinions or inferences.
RUUP7L	Explanation of Terms: The following descriptions are meant to provide context to the types of opinions reached in fire debris / ignitable liquid examinations. Identification: The sample contained an ignitable liquid or residues of an ignitable liquid. Not Identified: Compounds were detected that may be present in some ignitable liquids. Possible factors that prevented identification of an ignitable liquid may include one or more of the following: The detected compounds may originate from substrate materials and/or pyrolysis of substrate materials. Other compounds in the sample impeded data interpretation. An unexplained absence of components and/or differences in ratios of compound types compared to a reference liquid was observed. No comparable sample in the reference collection was found. Not Detected: The data did not indicate the presence of an ignitable liquid.
TZHNK2	Item 1A is agency item 1. Item 1B is agency item 2. Item 1C is agency item 3. Item 1D is agency item 4
U6MYGZ	The presence of ignitable liquids in Item 1 and Item 2 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids.
VEB7YP	Notes: The absence of ignitable liquids in Item 3 and Item 4 does not preclude their use at the scene. The presence of ignitable liquids in Item 1 and Item 2 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids. Two laboratory vials were repackaged with the evidence for Items 1 and 2.
VJ6Z2W	A copy of our 'Ignitable Liquid Classification Scheme' will be sent along with the report.
W24DAX	Item 1: Medium petroleum distillate, examples of which are paint thinners, naphthas, dry cleaning solvents and some brands of charcoal starter fluids. Item 2: Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. Item 3: No flammable or combustible liquids found. Item 4: No flammable or combustible liquids found.
WK93CU	The identification of an ignitable liquid / ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. The absence of an ignitable liquid / ignitable liquid residue does not preclude the possibility that ignitable liquids were present.
XDPALF	An Explanation of Terms would be included in our lab report but has not been included per CTS request.



TABLE 5

WebCode	Additional Comments
XJWPC7	A consideration of a Naphthenic-Paraffinic based on TIC pattern was considered. However the lack of cyclic alkanes indicated only an isoparaffinic product on #2.
XUYXXV	We have used the ASTM E 1618 – 14. There are two places where an ignitable liquid was detected : in a cloth remnant from the living room drapes and in a charred portion of wood from the area by the front door. There are two different liquids. No liquids were present before the fire started. It means that the fire was an arson. Caprolactam was detected in all items. Caprolactam is an organic compound used to synthesize Nylon. This compound result of nylon evidence bags.
Z6L4MV	The unanalyzed portion of the activated charcoal strips are being returned to the submitting agency along with the rest of the original evidence.
ZNLRA	This participant repackaged Items 1 through 4 for analysis; however, this participant respectfully disagrees with the repackaging instructions, believing that none of the original packaging material should be included in the repackaging container.

Collaborative Testing Services ~ Forensic Testing Program

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**Test No. 17-536: Ignitable Liquid Identification**DATA MUST BE RECEIVED BY October 30, 2017 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

**Accreditation Release Statement**

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB and A2LA. Please select one of the following statements to ensure your data is handled appropriately.

- This participant's data is intended for submission to ASCLD/LAB, ANAB and/or A2LA. (Accreditation Release section on the last page must be completed and submitted.)
- This participant's data is **NOT** intended for submission to ASCLD/LAB, ANAB or A2LA.

**Scenario:**

Police are investigating a suspected arson of a house that resulted in four deaths. It appears that the fire was started in two places, the living room and by the front door. Investigators collected a cloth remnant from the drapes in the living room and a piece of charred wood by the front door. They were immediately sealed within nylon evidence bags. The police are requesting you to identify any ignitable liquid(s) that may be present on the cloth remnant or charred piece of wood.

**Please note:** For laboratories that do not process evidence in nylon bags, please utilize the following method to transfer the items to a sampling container consistent with fire debris submission in your laboratory:

*Cut open 3 sides of the inner and outer bags containing the sample and place both opened bags and its contents into your laboratory container. Do not separate the sample (cloth, wood, etc.) from the bags when transferring to the laboratory container.*

*CTS will not reproduce Interpretation Scales, Scale of Conclusions or Terminology Keys in the final report, please do not submit with the participant's data sheet.*

**Items Submitted (Sample Pack IL):**

- Item 1 Cloth remnant from the living room drapes sealed in a nylon evidence bag.
- Item 2 Charred portion of wood from the area by the front door sealed in a nylon evidence bag.
- Item 3 Unburned wood substrate intended as a comparison blank sealed in a nylon evidence bag.
- Item 4 Cloth substrate intended as a comparison blank in a nylon evidence bag.

**Please return all pages of this data sheet.**

Page 1 of 4

Participant Code:

WebCode:

**1.) Using the ASTM E1618-14 Ignitable Liquid Classification Scheme, indicate the class for any ignitable liquid(s) detected in the submitted items.**

With the exception of the gasoline class, there are three subclasses for each major class based on n-alkane range: **Light** (C4-C9), **Medium** (C8-C13) and **Heavy** (C9-C20+). When the carbon range does not fit clearly into one of the previous categories (e.g. "light to medium", "medium to heavy"), report the carbon number range. Typical chromatograms for some of the classes/subclasses may be found in the published ASTM standard.

	Item 1	Item 2
No Ignitable Liquid(s) Detected	<input type="checkbox"/>	<input type="checkbox"/>
<b>Class</b>	<i>Subclass</i>	<i>Subclass</i>
Gasoline	<input type="checkbox"/>	<input type="checkbox"/>
Petroleum Distillates (including De-Aromatized)	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Isoparaffinic Products	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Aromatic Products	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Naphthenic Paraffinic Products	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Normal Alkanes Products	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Oxygenated Solvents	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Others - Miscellaneous	<input type="checkbox"/> _____	<input type="checkbox"/> _____

**2.) Ignitable Liquid Recovery Techniques**

**Adsorption Headspace**

a) Method:

- Passive
- Dynamic

b) Adsorption Temperature:

- Room Temperature
- Heated ( \_\_\_\_\_ °C)

c) Adsorption Duration: \_\_\_\_\_

d) Adsorbent:

- Carbon/Charcoal
- Other: \_\_\_\_\_

e) Desorption:

- Solvent: \_\_\_\_\_
- Thermal

**Other Recovery Techniques**

Specify: \_\_\_\_\_

**3.) Ignitable Liquid Identification Techniques**

- GC
- GC/MS
- Other (specify): \_\_\_\_\_

**Please return all pages of this data sheet.**



Collaborative Testing Services - Forensic Testing Program

**RELEASE OF DATA TO ACCREDITATION BODIES**

The following Accreditation Releases will apply only to:

Participant Code:

WebCode:

for Test No. **17-536: Ignitable Liquid Identification**

This release page must be completed and received by **October 30, 2017** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

Have the laboratory's designated individual complete the following steps **only if your laboratory is accredited in this testing/calibration discipline** by one or more of the following Accreditation Bodies.

**Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory**

**ASCLD/LAB** Certificate No. \_\_\_\_\_

**ANAB** Certificate No. \_\_\_\_\_

**A2LA** Certificate No. \_\_\_\_\_

**Step 2: Complete the Laboratory Identifying Information in its entirety**

Signature and Title \_\_\_\_\_

Laboratory Name \_\_\_\_\_

Location (City/State) \_\_\_\_\_

Accreditation Release	
<p><b><u>Return Instructions</u></b>                      Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.</p>	<p><i>Questions? Contact us 8 am-4:30 pm EST</i>                      Telephone: +1-571-434-1925                      email: forensics@cts-interlab.com</p>

**Please return all pages of this data sheet.**