Collaborative Testing Services, Inc
FORENSIC TESTING PROGRAM

P.O. Box 650820
Sterling, VA 20165-0820
e-mail: forensics@cts-interlab.com
Telephone: +1-571-434-1925
Web site: www.cts-forensics.com

Ignitable Liquid Identification
Test No. 22-5436 Summary Report

Each sample set consisted of three items: two nylon bags that each contained a cotton cloth remnant to which an ignitable liquid had been added (Items 1 and 2), and one nylon bag that contained a control sample of the cotton cloth substrate (Item 3). Data were returned from 280 participants and are compiled into the following tables:

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

Each sample set consisted of three items: two nylon bags that contained a cotton cloth remnant to which an ignitable liquid had been added, and one nylon bag that contained a sample of the carpet substrate. Participants were requested to identify and indicate the ASTM class for any ignitable liquid(s) detected in the submitted items.

SUBSTRATE PREPARATION: Each sample set consisted of cotton cloth remnants that were prepared by cutting it into 2x2 inch squares after it had been washed and dried.

ITEMS 1 and 2 (SAMPLE PREPARATION): The ignitable liquid used for Item 1 was a product labeled as Testors Paint Thinner. The ignitable liquid used for Item 2 was 87-Octane Gasoline. They were purchased from an online retailer and gas station respectively. After adding 50 μl of the ignitable liquid to the substrate, it was immediately heat-sealed in a nylon bag. This bag was then placed in a larger, pre-labeled nylon bag and heat-sealed. After sealing, each bag was inspected to determine if it contained an adequate amount of headspace. Each item was prepared separately and stored in different locations until the complete sample sets were packaged.

ITEM 3 (NEGATIVE CONTROL): The sample was packaged in the same way as described for Items 1 and 2, but no ignitable liquid was added to the cotton cloth substrate.

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 headspace. For each sample set, an Item 1, 2, and 3 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 Petroleum Distillates and Aromatic Products or Others-Miscellaneous. The ignitable liquid in Item 2 was identified as Gasoline. The liquids were 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 cotton cloth remnants packaged in nylon bags. Participants were provided with three items: two nylon bags that each contained a cotton cloth remnant to which an ignitable liquid had been added (Items 1 and 2), and one nylon bag that contained a control sample of the cotton cloth substrate (Item 3). The cotton cloth remnants in the Item 1 bags contained a product labeled as Testors Paint Thinner and the cotton cloth remnants in the Item 2 bags contained 87-Octane Gasoline (Refer to the Manufacturer's Information for preparation details).

Of the 280 participants who reported results for Item 1, 277 (99%) classified the ignitable liquid as belonging to either the Petroleum Distillates, Aromatic Products, and/or Others-Miscellaneous. Of the remaining three participants, two classified it to the Isoparaffinic Products class, and one classified it to Gasoline. For Item 1, the majority of the participants that classified the ignitable liquid as Petroleum Distillates reported the subclass as medium and those that classified it as Aromatic Products reported a subclass of light.

Of the 280 participants who reported results for Item 2, 265 (95%) classified the ignitable liquid as belonging to the Gasoline class. Eight of these participants reported an additional classification along with Gasoline including Petroleum Distillates, Others-Miscellaneous, and Aromatic Products. Of the remaining fifteen participants who reported classification results, eight classified it as Others-Miscellaneous, six classified it as belonging to the Petroleum Distillates, and one classified it as Aromatic Products and Petroleum Distillates.

The most common extraction technique used was heated, passive headspace concentration with carbon/charcoal absorbent and solvent desorption. The most common identification technique used 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
23GRM8	Petroleum Distillates (including De-Aromatized)	medium
24WTRU	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
29D6YW	Petroleum Distillates (including De-Aromatized)	Medium
2CRT98	Others - Miscellaneous	medium
2KK77L	Others - Miscellaneous	Medium
2LW4DC	Petroleum Distillates (including De-Aromatized)	Medium
2PGTAU	Petroleum Distillates (including De-Aromatized)	Medium
2PZTWW	Petroleum Distillates (including De-Aromatized)	Medium
2QD7XL	Others - Miscellaneous	Medium
2TDENR	Petroleum Distillates (including De-Aromatized)	Medium
2X8E69	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
2Y33DV	Petroleum Distillates (including De-Aromatized)	C6-C13
2Z9GQ4	Others - Miscellaneous	medium
364T4E	Others - Miscellaneous	Medium
36H299	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
3934YE	Petroleum Distillates (including De-Aromatized)	medium range
3ERFJB	Petroleum Distillates (including De-Aromatized)	Medium
3HAUU3	Petroleum Distillates (including De-Aromatized)	Medium
3LMNF2	Others - Miscellaneous	Medium
3PBZGT	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
3PX7DW	Others - Miscellaneous	medium
3Q7JVY	Others - Miscellaneous	light aromatic and medium petroleum distillate
3WQLJ6	Petroleum Distillates (including De-Aromatized)	medium
3YEBMH	Isoparaffinic Products	Medium
43PRDX	Petroleum Distillates (including De-Aromatized)	medium
49E3R3	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
4BCD3V	Others - Miscellaneous	Medium
4FY9K3	Others - Miscellaneous	Medium
4HNMY6	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
4QZQ2X	Aromatic Products	Light

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
4QZQ2X	Petroleum Distillates (including De-Aromatized)	Medium
4YPGHX	Petroleum Distillates (including De-Aromatized)	Medium
63MBYZ	Others - Miscellaneous	Medium
6786XL	Aromatic Products	
	Petroleum Distillates (including De-Aromatized)	Medium
6A7L9U	Aromatic Products	
	Petroleum Distillates (including De-Aromatized)	Medium
6EYFB2	Petroleum Distillates (including De-Aromatized)	Medium
6MX8GB	Others - Miscellaneous	Medium
6NQ2CU	Others - Miscellaneous	medium
6NQVY7	Others - Miscellaneous	medium
6PHWY3	Others - Miscellaneous	Medium
6VCU3J	Petroleum Distillates (including De-Aromatized)	Medium
73UJ3J	Others - Miscellaneous	Medium
74N8KE	Petroleum Distillates (including De-Aromatized)	medium
78DWJ8	Petroleum Distillates (including De-Aromatized)	medium (C8-C14)
7BWYDX	Petroleum Distillates (including De-Aromatized)	Medium
7GJWVU	Others - Miscellaneous	Medium(Xylenes + Petroleum distillates)
7JAVFJ	Aromatic Products	Light to Medium
	Petroleum Distillates (including De-Aromatized)	Medium
7JUQWC	Isoparaffinic Products	Heavy
7LWU99	Petroleum Distillates (including De-Aromatized)	medium
7NQ6VW	Petroleum Distillates (including De-Aromatized)	Medium
7RLCKY	Others - Miscellaneous	light to medium (nC8-nC12)
7T4ZLP	Petroleum Distillates (including De-Aromatized)	Medium
7XVBGX	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
86T9R8	Others - Miscellaneous	Mixture of Medium Petroleum Distillate and Medium-Range Aromatic
8A2W69	Gasoline	
8A4LA7	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
8FNQXZ	Others - Miscellaneous	light to medium
8JQDR4	Others - Miscellaneous	Medium
8JXD9J	Others - Miscellaneous	Medium
8MVRYU	Petroleum Distillates (including De-Aromatized)	Medium
8NHVR2	Others - Miscellaneous	Medium
8PAWQX	Others - Miscellaneous	Medium
9AUXGQ	Others - Miscellaneous	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
9B9MGW	Others - Miscellaneous	Medium
9F2JAU	Others - Miscellaneous	light and medium
9KNU3R	Others - Miscellaneous	light to medium
9MAXBP	Others - Miscellaneous	
9XGXKX	Petroleum Distillates (including De-Aromatized)	light
9YGVZY	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
9ZCHMN	Petroleum Distillates (including De-Aromatized)	Medium
A2Y9H2	Petroleum Distillates (including De-Aromatized)	medium to heavy
A3Q9HX	Others - Miscellaneous	Medium
A4VN7H	Petroleum Distillates (including De-Aromatized)	Medium
A7FRHL	Petroleum Distillates (including De-Aromatized)	Medium petroleum distillate (MPD)
A9EXX2	Others - Miscellaneous	Medium
ADRUKQ	Petroleum Distillates (including De-Aromatized)	Medium
AELH3L	Others - Miscellaneous	Light Aromatic Product and Medium Petroleum Distillate
AFHXG4	Others - Miscellaneous	medium
ALK6W7	Others - Miscellaneous	Medium
AMV7FK	Petroleum Distillates (including De-Aromatized)	medium
ARUBH6	Others - Miscellaneous	Medium
ATCCRK	Petroleum Distillates (including De-Aromatized)	medium
AU7ZBF	Aromatic Products	Light
	Others - Miscellaneous	
	Petroleum Distillates (including De-Aromatized)	Medium
AXH8YF	Others - Miscellaneous	Medium
B36EWE	Others - Miscellaneous	medium
B4HUJM	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
BAWJ49	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
BG7TBP	Petroleum Distillates (including De-Aromatized)	medium
BH8LP9	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
BHZGTL	Petroleum Distillates (including De-Aromatized)	Medium
BWNQPQ	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillate
C4ELWL	Aromatic Products	C8-C9
	Petroleum Distillates (including De-Aromatized)	Medium
C4ENHJ	Petroleum Distillates (including De-Aromatized)	medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
C9C2Q3	Others - Miscellaneous	medium aromatic product and medium petroleum distillate
CE7WL8	Petroleum Distillates (including De-Aromatized)	Medium
CH79H8	Petroleum Distillates (including De-Aromatized)	medium
CMURP6	Petroleum Distillates (including De-Aromatized)	Medium
CN343Z	Aromatic Products	Light to Medium (C8-C9)
	Petroleum Distillates (including De-Aromatized)	Medium (C8-C13)
CTETNV	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
D64CHQ	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
DM4F42	Others - Miscellaneous	C8-C12
DNF2PW	Petroleum Distillates (including De-Aromatized)	Medium
DV9YWJ	Others - Miscellaneous	medium
DZDQY6	Petroleum Distillates (including De-Aromatized)	Medium
EA3ZTH	Others - Miscellaneous	medium
ECJ9Z7	Others - Miscellaneous	Medium
EGGMR3	Others - Miscellaneous	C8-C12
EGHPCZ	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
EMJ7JY	Others - Miscellaneous	medium to heavy (C8-C14)
EP98PM	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
EPRZUR	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
ERWJQE	Aromatic Products	
	Petroleum Distillates (including De-Aromatized)	medium
ETDX7L	Petroleum Distillates (including De-Aromatized)	Medium
ETWGDE	Others - Miscellaneous	Medium (C9 - C12)
EU44CT	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
EVCCG8	Aromatic Products	Light to Medium
	Petroleum Distillates (including De-Aromatized)	Medium
EWZCY3	Others - Miscellaneous	Medium
F2WUCU	Others - Miscellaneous	Medium
FCY3Z8	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
FNRKLY	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
FNT86X	Others - Miscellaneous	Medium Blended Product (Aromatic Product+Medium Petroleum Distillate)
FTJMRK	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
FYZZTJ	Petroleum Distillates (including De-Aromatized)	Medium
GDPGYG	Aromatic Products	Light Aromatic Product
	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillate
GFBJLF	Aromatic Products	C8-C9
	Petroleum Distillates (including De-Aromatized)	Medium
GKRJ73	Others - Miscellaneous	Medium
GMUFVW	Others - Miscellaneous	C8-C12
GRQ9M7	Others - Miscellaneous	Medium
GVRAZ9	Petroleum Distillates (including De-Aromatized)	Medium (C8-C13)
GWJEYN	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
GXFQZH	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
H3VFEB	Others - Miscellaneous	medium
H4LQ4K	Others - Miscellaneous	Medium
HARD3E	Petroleum Distillates (including De-Aromatized)	Medium (C8-C12)
HFF44H	Petroleum Distillates (including De-Aromatized)	Medium
HHLHVF	Others - Miscellaneous	Medium
HNNMEZ	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillate
HT6WYH	Others - Miscellaneous	Medium
HUPQFR	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
J7JFZY	Petroleum Distillates (including De-Aromatized)	Medium
J9EZZ3	Others - Miscellaneous	medium
JADJFJ	Petroleum Distillates (including De-Aromatized)	medium
JKGUT2	Petroleum Distillates (including De-Aromatized)	medium (C9-C12)
JLE6P4	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
JLXNUB	Others - Miscellaneous	Medium
JPE7YY	Others - Miscellaneous	Medium
JRZXZ4	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
JUULW4	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillates (C9-C13)
JWQE9M	Petroleum Distillates (including De-Aromatized)	medium
JXNP4Q	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
JZGBGD	Others - Miscellaneous	
K23GUJ	Petroleum Distillates (including De-Aromatized)	medium
K4AZRJ	Petroleum Distillates (including De-Aromatized)	Medium
K64NAE	Petroleum Distillates (including De-Aromatized)	Medium petroleum distillate
K6LRRM	Others - Miscellaneous	medium
KH77VM	Aromatic Products	Light Aromatic Product
	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillate
KM3X2X	Others - Miscellaneous	
KQPB7V	Petroleum Distillates (including De-Aromatized)	Medium
KYTRB7	Others - Miscellaneous	light to medium
KZ77YF	Petroleum Distillates (including De-Aromatized)	Medium
L39LJQ	Petroleum Distillates (including De-Aromatized)	Medium
L3B93Q	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
L6CCUD	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
LALZA3	Petroleum Distillates (including De-Aromatized)	Medium
LATF6N	Others - Miscellaneous	Medium
LDUM6T	Petroleum Distillates (including De-Aromatized)	medium
LFHUUV	Petroleum Distillates (including De-Aromatized)	medium
LGNLFG	Petroleum Distillates (including De-Aromatized)	medium
LP7V4E	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
LPKEU3	Aromatic Products	Light-Medium
	Petroleum Distillates (including De-Aromatized)	Medium
LQHPP7	Others - Miscellaneous	light to medium
LTAJ3Z	Aromatic Products	Light
	Others - Miscellaneous	
	Petroleum Distillates (including De-Aromatized)	Medium
LTAJZE	Others - Miscellaneous	Medium
LVHVJ2	Petroleum Distillates (including De-Aromatized)	Medium (C8-C13)
LW9XCK	Aromatic Products	Medium (C8 to C9)
	Petroleum Distillates (including De-Aromatized)	Medium
M3NZTL	Petroleum Distillates (including De-Aromatized)	Medium
M9VJZR	Others - Miscellaneous	medium aromatic product and medium petroleum distillate
MA6J9E	Petroleum Distillates (including De-Aromatized)	Medium(C8-C12)
MBXRXA	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
MR4Q7D	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
MUVPKC	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
MY9MUK	Petroleum Distillates (including De-Aromatized)	MPD
N2MUKQ	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
NACY2X	Petroleum Distillates (including De-Aromatized)	Medium
NBFXWZ	Petroleum Distillates (including De-Aromatized)	Medium
NJWEJ9	Petroleum Distillates (including De-Aromatized)	Medium (C9-C13)
NQH4NA	Others - Miscellaneous	Medium
NR4B98	Aromatic Products	C8-C9
	Petroleum Distillates (including De-Aromatized)	Medium
NWK98V	Petroleum Distillates (including De-Aromatized)	Medium
P27NBT	Petroleum Distillates (including De-Aromatized)	Medium
P63LBJ	Petroleum Distillates (including De-Aromatized)	Medium
P7DGXB	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
P7F9TX	Petroleum Distillates (including De-Aromatized)	Medium
PA3KUP	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
PAGAVF	Aromatic Products	Medium (C8-C9)
	Petroleum Distillates (including De-Aromatized)	Medium
PECNWK	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
PJJCC8	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
PQ6A3F	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
PTCK4P	Others - Miscellaneous	Medium Petroleum Distillate and aromatic components
PULR4W	Others - Miscellaneous	Medium
PUNG9U	Petroleum Distillates (including De-Aromatized)	Medium
PYFNQ3	Others - Miscellaneous	Medium
Q3YW2N	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
QFJHX3	Others - Miscellaneous	medium
QFL93Z	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
QHBML9	Petroleum Distillates (including De-Aromatized)	Medium
QMY7QJ	Petroleum Distillates (including De-Aromatized)	Medium
QTXDTR	Petroleum Distillates (including De-Aromatized)	Medium
QWRCPC	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
QZRJ9N	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
RA9UVK	Others - Miscellaneous	Medium
RB3KYE	Others - Miscellaneous	Medium
RB78CL	Petroleum Distillates (including De-Aromatized)	Medium
RJLP88	Petroleum Distillates (including De-Aromatized)	Medium
RJZE7D	Petroleum Distillates (including De-Aromatized)	Medium
RNZB2W	Aromatic Products	Light
	Others - Miscellaneous	
	Petroleum Distillates (including De-Aromatized)	Medium
RUX7MQ	Petroleum Distillates (including De-Aromatized)	medium
RWZ7HG	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
RZLXQD	Others - Miscellaneous	Medium
T2HEUN	Petroleum Distillates (including De-Aromatized)	Medium
T479DA	Others - Miscellaneous	medium
T6TWMN	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
T8GBAD	Petroleum Distillates (including De-Aromatized)	medium range
TBUKYP	Petroleum Distillates (including De-Aromatized)	C-8 to C-13
TFQLFJ	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
TKPT6M	Others - Miscellaneous	Medium
TKUAE6	Petroleum Distillates (including De-Aromatized)	medium
TTKUNL	Others - Miscellaneous	C8-C12
U7379U	Petroleum Distillates (including De-Aromatized)	Medium
U78FBT	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
U8GPYJ	Others - Miscellaneous	Medium
UAL3Y7	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium (MPD)
UG7732	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
UJMRAF	Petroleum Distillates (including De-Aromatized)	Medium petroleum distillate
UKDDNQ	Petroleum Distillates (including De-Aromatized)	Medium
UKGFTB	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
UKJ4CA	Others - Miscellaneous	Medium
ULFGY3	Others - Miscellaneous	Medium
UPERV3	Others - Miscellaneous	Medium
UPLYCN	Petroleum Distillates (including De-Aromatized)	Medium
UQUZD3	Petroleum Distillates (including De-Aromatized)	Medium
UV8RNM	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillate
UXAUWD	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
V8JG44	Others - Miscellaneous	light to medium
VBHTZ4	Others - Miscellaneous	Medium
VFNP9K	Others - Miscellaneous	C8 - C12
VG96VZ	Petroleum Distillates (including De-Aromatized)	Medium
VJFFVB	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
VRXB8J	Petroleum Distillates (including De-Aromatized)	Medium (C9-C13)
W4AWCX	Others - Miscellaneous	medium
W4EBXW	Petroleum Distillates (including De-Aromatized)	medium
W6KZLF	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
WA28EA	Others - Miscellaneous	Medium (C8-C13)
WAVPNX	Others - Miscellaneous	medium
WBADM4	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
WF7YTW	Others - Miscellaneous	Medium (C9-C13)
WHD9UH	Petroleum Distillates (including De-Aromatized)	Medium
WJZYUM	Others - Miscellaneous	medium
WLTRQ7	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
WUK33M	Others - Miscellaneous	medium
WZAM4G	Others - Miscellaneous	Aromatic / MPD
X8RGP7	Others - Miscellaneous	medium
X9MWLU	Others - Miscellaneous	medium
XJVWHN	Others - Miscellaneous	Aromatic/Medium Petroleum Distillate
XPCWGZ	Petroleum Distillates (including De-Aromatized)	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
XPQJKN	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
XXGBLM	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
Y6DBR3	Petroleum Distillates (including De-Aromatized)	Medium petroleum distillate
Y6R2FD	Aromatic Products	
	Petroleum Distillates (including De-Aromatized)	medium
Y87CNJ	Others - Miscellaneous	medium
YA93ZZ	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
YDCTD7	Petroleum Distillates (including De-Aromatized)	Medium Distillate Petroleum
YEMVY6	Petroleum Distillates (including De-Aromatized)	Medium
YMBTGX	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
YNCH6R	Others - Miscellaneous	aromatic/MPD mixture
YZLYYR	Others - Miscellaneous	Medium
Z7AZUM	Others - Miscellaneous	Light Aromatic and Medium Petroleum Distillate
ZE2JXB	Petroleum Distillates (including De-Aromatized)	Medium
ZLJ6QF	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium
ZV4EAH	Petroleum Distillates (including De-Aromatized)	Medium
ZZVPZ8	Aromatic Products	light
	Petroleum Distillates (including De-Aromatized)	medium

Response Summary

Total Participants: 280

Item 1: Class

Petroleum Distillates (including De-Aromatized)	179	(63.9%)
Others - Miscellaneous	101	(36.1%)
Aromatic Products	78	(27.9%)
Isoparaffinic Products	2	(0.7%)
Gasoline	1	(0.4%)

Totals may add up to more than the total number of participants because participants can report multiple ignitable substance classes detected.

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
23GRM8	Gasoline	
24WTRU	Gasoline	
29D6YW	Gasoline	
2CRT98	Gasoline	
2KK77L	Gasoline	
2LW4DC	Gasoline	
2PGTAU	Gasoline	
2PZTWW	Gasoline	
2QD7XL	Gasoline	
2TDENR	Gasoline	
2X8E69	Gasoline	
2Y33DV	Gasoline	
2Z9GQ4	Gasoline	
364T4E	Gasoline	
36H299	Gasoline	
	Petroleum Distillates (including De-Aromatized)	Medium
3934YE	Gasoline	
3ERFJB	Gasoline	
3HAUU3	Gasoline	
3LMNF2	Gasoline	
3PBZGT	Gasoline	
3PX7DW	Gasoline	
3Q7JVY	Gasoline	
3WQLJ6	Gasoline	
	Petroleum Distillates (including De-Aromatized)	medium
3YEBMH	Gasoline	Medium
43PRDX	Gasoline	light to medium
49E3R3	Gasoline	
4BCD3V	Gasoline	
4FY9K3	Gasoline	
4HNMY6	Gasoline	
4QZQ2X	Gasoline	
4YPGHX	Gasoline	
63MBYZ	Gasoline	
6786XL	Gasoline	

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
6A7L9U	Gasoline	
6EYFB2	Gasoline	
6MX8GB	Gasoline	
6NQ2CU	Gasoline	
6NQVY7	Gasoline	
6PHWY3	Gasoline	
6VCU3J	Gasoline	Medium
73UJ3J	Gasoline	
74N8KE	Gasoline	
78DWJ8	Gasoline	
7BWYDX	Gasoline	
7GJWVU	Gasoline	
7JAVFJ	Gasoline	
7JUQWC	Petroleum Distillates (including De-Aromatized)	Medium
7LWU99	Gasoline	
7NQ6VW	Gasoline	
7RLCKY	Gasoline	
7T4ZLP	Gasoline	
7XVBGX	Gasoline	
86T9R8	Others - Miscellaneous	Mixture of Gasoline and Medium to Heavy Petroleum Distillate (C8-C14)
8A2W69	Aromatic Products	Light
	Petroleum Distillates (including De-Aromatized)	Medium
8A4LA7	Gasoline	
8FNQXZ	Gasoline	
8JQDR4	Gasoline	
	Petroleum Distillates (including De-Aromatized)	Medium
8JXD9J	Gasoline	
8MVRYU	Gasoline	
8NHVR2	Gasoline	
8PAWQX	Gasoline	
9AUXGQ	Gasoline	
9B9MGW	Gasoline	
9F2JAU	Gasoline	
9KNU3R	Gasoline	
9MAXBP	Gasoline	
9XGXKX	Gasoline	
9YGVZY	Gasoline	

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
9ZCHMN	Gasoline	
A2Y9H2	Gasoline	
A3Q9HX	Gasoline	
A4VN7H	Gasoline	
A7FRHL	Gasoline	
A9EXX2	Gasoline	
ADRUKQ	Gasoline	
AELH3L	Gasoline	
AFHXG4	Gasoline	
ALK6W7	Gasoline	
AMV7FK	Gasoline	
ARUBH6	Gasoline	
ATCCRK	Gasoline	
AU7ZBF	Gasoline	
AXH8YF	Gasoline	
B36EWE	Gasoline	
B4HUJM	Gasoline	
BAWJ49	Gasoline	
BG7TBP	Gasoline	
BH8LP9	Gasoline	
BHZGTL	Gasoline	
BWNQPQ	Gasoline	
C4ELWL	Gasoline	
C4ENHJ	Gasoline	
C9C2Q3	Gasoline	
CE7WL8	Gasoline	
CH79H8	Gasoline	medium
CMURP6	Gasoline	
CN343Z	Gasoline	
CTETNV	Gasoline	
D64CHQ	Gasoline	
DM4F42	Gasoline	
DNF2PW	Gasoline	
DV9YWJ	Gasoline	C4 TO C12
DZDQY6	Gasoline	
EA3ZTH	Gasoline	
ECJ9Z7	Gasoline	Fresh gasoline is typically in the range C4-C12.
EGGMR3	Gasoline	

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
EGHPCZ	Gasoline	
EMJ7JY	Gasoline	
EP98PM	Gasoline	
EPRZUR	Gasoline	
ERWJQE	Gasoline	
ETDX7L	Gasoline	
ETWGDE	Gasoline	
EU44CT	Gasoline	
EVCCG8	Gasoline	
EWZCY3	Gasoline	
F2WUCU	Gasoline	
FCY3Z8	Gasoline	
FNRKLY	Gasoline	
FNT86X	Others - Miscellaneous	Medium Blended Product (Gasoline+Medium Petroleum Distillate)
FTJMRK	Gasoline	
FYZZTJ	Gasoline	
GDPGYG	Gasoline	
GFBJLF	Gasoline	
GKRJ73	Gasoline	
GMUFVW	Gasoline	
GRQ9M7	Others - Miscellaneous	
GVRAZ9	Gasoline	
GWJEYN	Gasoline	
GXFQZH	Gasoline	
H3VFEB	Gasoline	
H4LQ4K	Gasoline	
HARD3E	Others - Miscellaneous	Aromatic/Medium (C8-C14)
HFF44H	Gasoline	
HHLHVF	Gasoline	
HNNMEZ	Gasoline	
HT6WYH	Gasoline	
HUPQFR	Gasoline	
J7JFZY	Gasoline	
J9EZZ3	Gasoline	
JADJFJ	Gasoline	
JKGUT2	Gasoline	
JLE6P4	Gasoline	

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
JLXNUB	Gasoline	
JPE7YY	Gasoline	
JRZXZ4	Gasoline	
JUULW4	Gasoline	
JWQE9M	Others - Miscellaneous	C7 to C14
JXNP4Q	Gasoline	
JZGBGD	Gasoline	
K23GUJ	Gasoline	
K4AZRJ	Gasoline	
K64NAE	Gasoline	
K6LRRM	Gasoline	
KH77VM	Gasoline	
	Others - Miscellaneous	Hydrocarbon material similar to partly evaporated medium to heavy petroleum distillate vapour.
KM3X2X	Gasoline	
KQPB7V	Gasoline	
KYTRB7	Gasoline	
KZ77YF	Gasoline	
L39LJQ	Petroleum Distillates (including De-Aromatized)	Medium
L3B93Q	Gasoline	
L6CCUD	Gasoline	
LALZA3	Petroleum Distillates (including De-Aromatized)	Medium
LATF6N	Gasoline	
LDUM6T	Gasoline	
LFHUUV	Gasoline	
LGNLFG	Gasoline	
LP7V4E	Gasoline	
LPKEU3	Gasoline	
LQHPP7	Gasoline	
LTAJ3Z	Gasoline	
LTAJZE	Gasoline	
LVHVJ2	Gasoline	Gasoline
LW9XCK	Gasoline	
M3NZTL	Gasoline	
M9VJZR	Gasoline	
MA6J9E	Gasoline	
MBXRXA	Gasoline	
MR4Q7D	Gasoline	

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
MUVPKC	Gasoline	
MY9MUK	Gasoline	
N2MUKQ	Gasoline	
NACY2X	Gasoline	
NBFXWZ	Gasoline	Partly evaporated
NJWEJ9	Gasoline	Aromatics (C6-C13)
NQH4NA	Gasoline	
NR4B98	Gasoline	
NWK98V	Gasoline	
P27NBT	Gasoline	
P63LBJ	Gasoline	
P7DGXB	Gasoline	
P7F9TX	Petroleum Distillates (including De-Aromatized)	Medium
PA3KUP	Gasoline	
PAGAVF	Gasoline	
PECNWK	Gasoline	
PJJCC8	Gasoline	
PQ6A3F	Gasoline	
PTCK4P	Gasoline	
PULR4W	Gasoline	
PUNG9U	Gasoline	
PYFNQ3	Gasoline	
Q3YW2N	Gasoline	
QFJHX3	Gasoline	
QFL93Z	Gasoline	
QHBML9	Gasoline	
QMY7QJ	Gasoline	
QTXDTR	Gasoline	light/medium
QWRCPC	Gasoline	
QZRJ9N	Gasoline	
RA9UVK	Gasoline	
RB3KYE	Gasoline	
RB78CL	Others - Miscellaneous	
RJLP88	Gasoline	
RJZE7D	Gasoline	
RNZB2W	Gasoline	
RUX7MQ	Gasoline	
RWZ7HG	Gasoline	

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
RZLXQD	Gasoline	
T2HEUN	Gasoline	
	Petroleum Distillates (including De-Aromatized)	Medium
T479DA	Gasoline	
T6TWMN	Gasoline	
T8GBAD	Gasoline	
TBUKYP	Petroleum Distillates (including De-Aromatized)	C-7 to C-14
TFQLFJ	Gasoline	
TKPT6M	Gasoline	
TKUAE6	Gasoline	
TTKUNL	Gasoline	
U7379U	Gasoline	all brand
U78FBT	Gasoline	
U8GPYJ	Gasoline	
UAL3Y7	Gasoline	Evaporated Gasoline
UG7732	Gasoline	
UJMRAF	Gasoline	
UKDDNQ	Gasoline	
UKGFTB	Gasoline	
UKJ4CA	Gasoline	
ULFGY3	Gasoline	
UPERV3	Gasoline	
UPLYCN	Gasoline	
UQUZD3	Gasoline	
UV8RNM	Petroleum Distillates (including De-Aromatized)	Medium Petroleum Distillate
UXAUWD	Gasoline	
V8JG44	Gasoline	
	Petroleum Distillates (including De-Aromatized)	medium
VBHTZ4	Gasoline	
VFNP9K	Gasoline	
VG96VZ	Gasoline	
VJFFVB	Gasoline	
VRXB8J	Gasoline	
	Others - Miscellaneous	C10-C14
W4AWCX	Gasoline	
W4EBXW	Gasoline	
W6KZLF	Gasoline	gasoline
WA28EA	Gasoline	

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
WAVPNX	Gasoline	
WBADM4	Gasoline	
WF7YTW	Gasoline	
WHD9UH	Gasoline	
WJZYUM	Gasoline	
WLTRQ7	Gasoline	
WUK33M	Gasoline	
WZAM4G	Gasoline	
	Petroleum Distillates (including De-Aromatized)	Medium
X8RGP7	Gasoline	
X9MWLU	Gasoline	
XJVWHN	Gasoline	
XPCWGZ	Others - Miscellaneous	
XPQJKN	Gasoline	
XXGBLM	Gasoline	
Y6DBR3	Gasoline	
Y6R2FD	Gasoline	
Y87CNJ	Gasoline	
YA93ZZ	Gasoline	
YDCTD7	Gasoline	
YEMVY6	Gasoline	
YMBTGX	Gasoline	
YNCH6R	Gasoline	
YZLYYR	Gasoline	
Z7AZUM	Gasoline	
ZE2JXB	Others - Miscellaneous	Medium to heavy
ZLJ6QF	Gasoline	
ZV4EAH	Gasoline	
ZZVPZ8	Gasoline	

Response Summary

Total Participants: 280

Item 2: Class

Gasoline	265	(94.6%)	Totals may add up to more than the total number of participants because participants can report multiple ignitable substance classes detected.
Petroleum Distillates (including De-Aromatized)	13	(4.6%)	
Others - Miscellaneous	10	(3.6%)	
Aromatic Products	1	(0.4%)	

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

Extraction Techniques

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
23GRM8	✓			✓	65	~16hrs	Carbon/Charcoal	carbon disulfide
24WTRU	✓			✓	60	16 hours	Carbon/Charcoal	methylene chloride
29D6YW	✓			✓	70	24 hours	Carbon/Charcoal	Diethyl ether
2CRT98	✓			✓	70	16 hours	Carbon/Charcoal	CS2
2KK77L	✓			✓	50	4 hours	Carbon/Charcoal	Carbon Disulfide
2LW4DC		✓		✓	88	20 minutes	Carbon/Charcoal	carbon disulfide
2PGTAU	✓			✓	80	16 hours	Carbon/Charcoal	CS2
2PZTWW	✓		✓	✓	80	15min	SPME Carboxene (@room temp) and PDM 100um (@80oC)	Thermal
Other Extraction Technique: Extraction of sample with Isooctane								
2QD7XL	✓			✓	~80	16 hours	Carbon/Charcoal	carbon disulfide
2TDENR	✓			✓	70	16 hours	Carbon/Charcoal	Carbon Disulfide
2X8E69	✓			✓	80	overnight	Carbon/Charcoal	Carbon Disulfide/C26
2Y33DV	✓				70	40 hours	Carbon/Charcoal	diethyl ether
2Z9GQ4	✓			✓	77	3 hours	Carbon/Charcoal	carbon disulfide
364T4E	✓			✓	80	16 hours	Carbon/Charcoal	carbon disulfide
36H299	✓			✓	79	16 hours	Carbon/Charcoal	Carbon Disulfide
3934YE	✓			✓	60	16 hours	Carbon/Charcoal	carbon disulfide
3ERFJB		✓		✓	80	4	Charcoal	pentane
3HAUU3	✓		✓	✓	80	One day	Tenax	Thermal
3LMNF2	✓			✓	77	3 hours	Carbon/Charcoal	Carbon disulfide
3PBZGT	✓			✓	~76	~17 h	Carbon/Charcoal	Carbon Disulfide
3PX7DW	✓			✓	80		Carbon/Charcoal	carbon disulfide
3Q7JVY	✓			✓	60	16	Carbon/Charcoal	
3WQLJ6		✓		✓	120		TENAX	Thermal
3YEBMH	✓			✓	70	5 minutes	SPME Fiber	Thermal
Other Extraction Technique: None								
43PRDX	✓		✓			1h	SPME(black)	ether, Thermal
49E3R3	✓			✓	65	16 hours	Carbon/Charcoal	Carbon Disulfide

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
4BCD3V	✓			✓	80	8 hours	Carbon/Charcoal	Carbon disulfide
4FY9K3	✓			✓	65	16 hours	Carbon/Charcoal	Carbon Disulfide
4HNMY6	✓			✓	70	16.5	Carbon/Charcoal	TCE:Ethyl Ether
4QZQ2X	✓			✓	70-72	18 hours	Carbon/Charcoal	carbon disulfide
4YPGHX	✓		✓			15 min	Carbon/Charcoal, Solid phase microextraction	MC(methylene chloride)
63MBYZ		✓		✓	70	4 h	Tenax	Thermal
Other Extraction Technique: Direct headspace GC-FID								
6786XL	✓			✓	65	17 hours	Carbon/Charcoal	Carbon Disulfide
6A7L9U	✓			✓	76	17 hours	Carbon/Charcoal	Carbon Disulfide
6EYFB2	✓			✓	65	~16 hours	Carbon/Charcoal	carbon disulfide
6MX8GB	✓			✓	80	16 hours	Carbon/Charcoal	Carbon disulfide
6NQ2CU	✓			✓	80	approx. 16 hours	Carbon/Charcoal	carbon disulfide
6NQVY7	✓			✓	80	5 hours	Carbon/Charcoal	Carbon Disulfide
Other Extraction Technique: Heated Headspace Sampling								
6PHWY3	✓			✓	76.5	2.5 hours	Carbon/Charcoal	carbon disulfide
6VCU3J								
73UJ3J	✓			✓	~80	16 hours	Carbon/Charcoal	carbon disulfide
74N8KE	✓			✓	75	15 hours	Carbon/Charcoal	pentane, Thermal
78DWJ8	✓		✓				SPME DCP	Thermal
7BWYDX	✓			✓	~67	4 hours	Carbon/Charcoal	carbon disulfide
7GJWVU	✓			✓	60	5 min	SPME	Thermal
7JAVFJ	✓			✓	70	16 Hours	Carbon/Charcoal	Dichloromethane
7JUQWC		✓		✓	50	Tenax-TD	20 min	Thermal
7LWU99	✓			✓	95			
7NQ6VW	✓			✓	60	About 14 1/2 hours	Carbon/Charcoal	Carbon Disulfide
7RLCKY	✓			✓	75	5 hrs	Carbon/Charcoal	carbon disulfide
7T4ZLP	✓				80	16 hours	Carbon/Charcoal	CS2
7XVBGX	✓			✓	~76	~17 hours	Carbon/Charcoal	CS2
86T9R8	✓			✓	80	2 Hours	Carbon/Charcoal	Pentane
8A2W69	✓			✓	65	16 hours	Carbon/Charcoal	Carbon disulfide

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
8A4LA7	✓		✓			17 hours	Carbon/Charcoal	Carbon disulfide
8FNQXZ	✓			✓	75.0	2hr 36min	Carbon/Charcoal	carbon disulfide
8JQDR4	✓			✓	79	16.67 hrs	Carbon/Charcoal	Carbon disulfide
Other Extraction Technique: Does not apply								
8JXD9J	✓			✓	73	15 hours		CS2
8MVRYU	✓			✓	75	15 hours	Carbon/Charcoal	pentane
8NHVR2	✓			✓	~80	Overnight	Carbon/Charcoal	Carbon Disulfide/C26
8PAWQX	✓			✓	77.9	2hr 45min	Carbon/Charcoal	carbon disulfide
9AUXGQ	✓			✓	~69	~16 hours	Carbon/Charcoal	Carbon Disulfide
9B9MGW	✓			✓	65	16 hours	Carbon/Charcoal	Carbon disulfide
9F2JAU	✓			✓	60-70	16 hours	Carbon/Charcoal	Carbon Disulfide
9KNU3R	✓			✓	60	overnight	Carbon/Charcoal	CS2
9MAXBP	✓			✓	80	8 hours	Carbon/Charcoal	DCM and Butanol
9XGXKX	✓			✓	50	5 min	PDMS	Thermal
Other Extraction Technique: SPME								
9YGVZY	✓			✓	60	16 Hours	Carbon/Charcoal	Carbon Disulfide
9ZCHMN	✓			✓	70	24 hrs	Carbon/Charcoal	diethyl ether
A2Y9H2	✓			✓	75			
A3Q9HX	✓			✓	76.7	2.75 hours	Carbon/Charcoal	CS2
A4VN7H	✓			✓	~60	~16h	Carbon/Charcoal	Carbon disulfide
A7FRHL	✓			✓	80	14 hours	Carbon/Charcoal	Pentane
A9EXX2	✓			✓	81	16 hours	Carbon/Charcoal	Carbon Disulfide
ADRUKQ	✓			✓	65	16 hours	Carbon/Charcoal	Carbon disulfide
AELH3L	✓			✓	~76	~17 hours	Carbon/Charcoal	Carbon Disulfide
AFHXG4	✓			✓	65	16 hours	Carbon/Charcoal	Carbon Disulfide
ALK6W7	✓			✓	60	16h	Carbon/Charcoal	CS2
AMV7FK	✓			✓	70	12 hours	Carbon/Charcoal	Ethyl Ether
Other Extraction Technique: Direct (Static) Headspace Analysis								
ARUBH6	✓			✓	80	2 hours	Carbon/Charcoal	Pentane
ATCCRK	✓			✓	70	3 hours	Carbon/Charcoal	pentane
Other Extraction Technique: heated headspace								
AU7ZBF	✓			✓	64	~16 hours	Carbon/Charcoal	Carbon Disulfide

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
AXH8YF	✓			✓	60	19 hours	Carbon/Charcoal	carbon disulfide
B36EWE	✓			✓	65.0		Carbon/Charcoal	CS2
B4HUJM		✓		✓	85.0	20 minutes	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: Heated Headspace								
BAWJ49	✓			✓	70	5 hours 15 minutes	Carbon/Charcoal	Carbon DiSulfide
BG7TBP	✓		✓			10 min		Dichloromethane
Other Extraction Technique: SPME								
BH8LP9	✓			✓	70	12 hours	Carbon/Charcoal	
BHZGTL	✓			✓	80	17 hrs	Carbon/Charcoal	CS2
BWNQPQ	✓				60	14.5	Carbon/Charcoal	Carbon disulfide
C4ELWL	✓			✓	70	16 hours	Carbon/Charcoal	Carbon disulfide
C4ENHJ	✓			✓	80	~16 hours	Carbon/Charcoal	Carbon Disulfide
C9C2Q3	✓			✓	70	12-16 Hours	Carbon/Charcoal	Carbon Disulfide
CE7WL8	✓			✓	80	15H	Carbon/Charcoal	Pentane
CH79H8	✓			✓	90	16 hr	Carbon/Charcoal	CS2
CMURP6	✓		✓	✓	68	8 hours	Carbon/Charcoal	CS2
Other Extraction Technique: direct headspace injection								
CN343Z	✓			✓	70		Carbon/Charcoal	CS2
CTETNV	✓			✓	65	16 hours	Carbon/Charcoal	Carbon Disulfide
D64CHQ	✓			✓	80	2 hours	Carbon/Charcoal	Carbon Disulfide
DM4F42	✓			✓	80	4 hours	Carbon/Charcoal	pentane
DNF2PW	✓			✓	65	16 hours	Carbon/Charcoal	carbon disulfide
DV9YWJ	✓		✓	✓	80	15 min	SPME	Thermal
DZDQY6	✓			✓	60	18 hours	Carbon/Charcoal	CS2
EA3ZTH	✓			✓	80	12 hours	Carbon/Charcoal	Carbon disulfide
ECJ9Z7	✓		✓	✓	temperatu re and 80	1 hour, 15 min and 30 min	spme carbox pdms	Thermal
EGGMR3	✓			✓	80	4 Hours	Carbon/Charcoal	Pentane
EGHPCZ	✓			✓	60	16 hours	Carbon/Charcoal	Carbon Disulfide
EMJ7JY							Carbon/Charcoal	hexane solvent
EP98PM	✓			✓	80	2 hours	Carbon/Charcoal	carbon disulfide
EPRZUR		✓	✓	✓	130		Tenax TA	Thermal
ERWJQE	✓			✓	65	16 hours	Carbon/Charcoal	CS2

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
ETDX7L	✓			✓	80	8 Hours	Carbon/Charcoal	Acetone
ETWGDE	✓			✓	~65	~ 17 hours	Carbon/Charcoal	Carbon disulfide
EU44CT	✓			✓	60	~16 hours	Carbon/Charcoal	Carbon disulfide
EVCCG8	✓			✓	~70	1 hour	Carbon/Charcoal	Carbon Disulfide
Other Extraction Technique: Heated Headspace								
EWZCY3	✓			✓	80	15min	SPME (PDMS/CAR)	Thermal
F2WUCU	✓			✓	80	Overnight	Carbon/Charcoal	Carbon Disulfide
FCY3Z8	✓			✓	73	16.5 hours	Carbon/Charcoal	Diethyl ether
FNRKLY	✓			✓	80	8hrs.	Carbon/Charcoal	CS2
FNT86X	✓		✓	✓	70	15 min		
Other Extraction Technique: extraction in CH2Cl2								
FTJMRK		✓		✓	85	20 minutes	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: Heated headspace								
FYZZTJ	✓			✓	90	12 hours	Carbon/Charcoal	Diethyl Ether
GDPGYG		✓		✓	85	20 minutes	Carbon/Charcoal	Carbon Disulfide
GFBJLF	✓			✓	70	~16 hours	Carbon/Charcoal	Carbon Disulfide
GKRJ73	✓			✓	70	16 hours	Carbon/Charcoal	Carbon Disulfide
GMUFVW	✓			✓	80	4 hours	Carbon/Charcoal	Pentane
GRQ9M7	✓			✓	110	45 min		n-pentan
GVRAZ9	✓		✓	✓	70	15 - 30 minutes		
Other Extraction Technique: Direct headspace injection								
GWJEYN	✓			✓	65	17 hours	Carbon/Charcoal	CS2
GXFQZH	✓			✓	65	16 Hours	Carbon/Charcoal	Carbon Disulfide
H3VFEB	✓			✓	62	20.5 hrs	Carbon/Charcoal	CS2
H4LQ4K	✓			✓	85	4 Hours	Carbon/Charcoal	1:1 Carbon Disulfide - Pentane
HARD3E	✓			✓	70	16 hours	Carbon/Charcoal	Pentane
HFF44H	✓		✓	✓	82	~16 hours	Carbon/Charcoal	DCM
HHLHVF	✓			✓	80	16	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: Direct headspace								
HNNMEZ	✓			✓	70	16 hours	Carbon/Charcoal	Dichloromethane
HT6WYH	✓			✓	80	16	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: Direct headspace analysis								

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
HUPQFR	✓			✓	65	16 hours	Carbon/Charcoal	CS2
J7JFZY	✓			✓	70	4 hours	Carbon/Charcoal	Carbon Disulfide
J9EZZ3	✓			✓	40	10 min	SPME (DVB/CAR/PDMS)	Thermal
JADJFJ	✓		✓			~24 hours	Carbon/Charcoal	CS2
JKGUT2	✓			✓	95			pentane, Thermal
JLE6P4	✓			✓	66	16 hours	Carbon/Charcoal	CS2
JLXNUB	✓			✓	~86	15 hours	Carbon/Charcoal	carbon disulfide
JPE7YY	✓			✓	63	20 hr	Carbon/Charcoal	CS2
JRZXZ4	✓			✓	66	16hr	Carbon/Charcoal	CS2
JUULW4	✓			✓	80	15min	SPME (DVB-PDMS)	Thermal
Other Extraction Technique: Headspace (HS) seringue incubation temperature 90°C in GC-FID								
JWQE9M	✓			✓	60	16 hours	Carbon/Charcoal	
JXNP4Q	✓			✓	70	10 min	SPME	Thermal
Other Extraction Technique: Extraction								
JZGBGD	✓			✓	80	12-16 hours	Carbon/Charcoal	CS2
K23GUJ	✓		✓			~24 hours	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: ~1/2 carbon strip ~450uL CS2								
K4AZRJ	✓			✓	60		Carbon/Charcoal	CS2
K64NAE	✓			✓	70	Overnight	Carbon/Charcoal	DCM and Toluene
K6LRRM	✓			✓	70	5 hours	Carbon/Charcoal	Carbon Disulfide
KH77VM	✓			✓	110			Thermal
KM3X2X	✓			✓	90	5h	Carbon/Charcoal	CS2
KQPB7V	✓			✓	80	2 hours	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: Used n-nonane for a second elution of additional charcoal strip material from Item 2.								
KYTRB7	✓			✓	65	16 hours	Carbon/Charcoal	carbon disulfide
KZ77YF	✓		✓	✓	40	10 minutes	solid-phase microextraction (carbox/PDMS)	Thermal
Other Extraction Technique: solvent extraction with hexane								
L39LJQ								n-Hexane
L3B93Q	✓		✓			16 hours	Carbon/Charcoal	CS2
L6CCUD	✓			✓	65	16 hours	Carbon/Charcoal	Carbon Disulfide (CS2)
LALZA3		✓		✓	90	10 min		
LATF6N	✓			✓	~80		Carbon/Charcoal	CS2/C26

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
LDUM6T	✓			✓	80		SPME (Carboxen-PDMS)	Thermal
LFHUUV	✓			✓	60	<24 hours	Carbon/Charcoal	CS2
LGNLFG	✓		✓			10sec	SPME	Thermal
Other Extraction Technique: extraction								
LP7V4E		✓		✓	90	20 minutes	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: Heated headspace								
LPKEU3	✓			✓	70	16 hours	Carbon/Charcoal	DCM
LQHPP7	✓			✓	65	16 hours	Carbon/Charcoal	carbon disulfide
LTAJ3Z	✓			✓	70	24 hr 15 mins.	Carbon/Charcoal	Carbon Disulfide
LTAJZE	✓			✓	65	16 hours	Carbon/Charcoal	Dichloromethane
LVHVJ2								
Other Extraction Technique: Solvent Extraction								
LW9XCK	✓			✓	60	16 hours	Carbon/Charcoal	CSS
M3NZTL	✓			✓	70-100	2 hours	Carbon/Charcoal	Pentane
M9VJZR	✓			✓	70	12-16 hours	Carbon/Charcoal	Carbon Disulfide
MA6J9E	✓			✓	70	10 min	SPME black	Thermal
Other Extraction Technique: Extraction by hexane was also performed								
MBXRXA	✓			✓	70	~16 hours	Carbon/Charcoal	carbon disulfide
MR4Q7D	✓			✓	66	16 Hours	Carbon/Charcoal	Carbon Disulfide
MUVPKC	✓			✓	~70	~16 hours	Carbon/Charcoal	CS2
MY9MUK	✓			✓	80			
N2MUKQ	✓			✓	77	0.5 Hours	Carbon/Charcoal	Carbon Disulfide
NACY2X	✓			✓	90	10 min	PDMS	Thermal
Other Extraction Technique: Static head space								
NBFXWZ		✓		✓	100	10minutes	Tenax	
NJWEJ9	✓			✓	70	Approximately 24 Hours	Carbon/Charcoal	Diethyl Ether
NQH4NA	✓			✓	80	13	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: direct headspace analysis								
NR4B98	✓			✓	70	16 hours	Carbon/Charcoal	Carbon disulfide
NWK98V	✓			✓	70	16 hours	Carbon/Charcoal	CS2
Other Extraction Technique: Simple headspace								
P27NBT	✓			✓	80	2 hours	Carbon/Charcoal	CS2
P63LBJ	✓			✓	90	0.1 minutes	SPME	
Other Extraction Technique: SPME								

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
P7DGXB	✓			✓	64	16 hours	Carbon/Charcoal	Carbon Disulfide
P7F9TX				✓	90			
Other Extraction Technique: Solvent Extraction - Pentane								
PA3KUP	✓			✓	70		Carbon/Charcoal	CS2
PAGAVF	✓			✓	60	16 hours	Carbon/Charcoal	Carbon Disulfide
PECNWK	✓			✓	~60	~16 hours	Carbon/Charcoal	Carbon Disulfide
PJJCC8		✓		✓	85	20 min	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: Heated Headspace								
PQ6A3F	✓			✓	65	17 hours	Carbon/Charcoal	CS2
PTCK4P	✓			✓	60	16 hours	Carbon/Charcoal	Carbon Disulfide
PULR4W	✓			✓	71	14 hours	Carbon/Charcoal	Carbon Disulfide
PUNG9U	✓			✓	70	30 minutes	Carbon/Charcoal	Carbon Disulfide
PYFNQ3	✓			✓	65	16 hours	Carbon/Charcoal	carbon disulfide
Q3YW2N	✓		✓			16.5 hours	Carbon/Charcoal	carbon disulfide
QFJHX3	✓			✓	90	14 Hours	Carbon/Charcoal	Carbon DiSulfide
QFL93Z	✓			✓	65	16 hours	Carbon/Charcoal	CS2
QHBML9	✓			✓	80	16hrs	Carbon/Charcoal	Carbon disulfide
QMY7QJ	✓			✓	65		Carbon/Charcoal	carbon disulfide
QTXDTR	✓		✓					ethyl acetate
QWRCPC	✓			✓	80	2 hours	Carbon/Charcoal	Carbon Disulfide
QZRJ9N	✓			✓	76	4 hours	Carbon/Charcoal	carbon disulfide
RA9UVK	✓		✓			16 Hours	Carbon/Charcoal	Carbon Disulfide
RB3KYE	✓			✓	65	16 Hours	Carbon/Charcoal	Carbon Disulfide
RB78CL								
Other Extraction Technique: Liquid Extraction								
RJLP88		✓	✓			10mL of headspace	Carbograph 5TD	Thermal
RJZE7D	✓			✓	60-70	18hrs	Carbon/Charcoal	Carbon Disulfide
RNZB2W	✓			✓	63	16 hours	Carbon/Charcoal	CS2
RUX7MQ	✓			✓	75	13h	Tenax TA adsorption tubes	Thermal
Other Extraction Technique: solvent extraction with hexane								
RWZ7HG	✓			✓	60	16 hours	Carbon/Charcoal	carbon disulfide
RZLXQD	✓			✓	65	16 hours	Carbon/Charcoal	CS2

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
T2HEUN	✓		✓				Carbon/Charcoal	Carbon disulfide
T479DA	✓			✓	65	approx. 16.5 hours	Carbon/Charcoal	CS2
Other Extraction Technique: static headspace								
T6TWMN	✓			✓	70	16.5 hrs	Carbon/Charcoal	TCE/ether
T8GBAD	✓			✓	65	16 hours	Carbon/Charcoal	Carbon Disulfide
TBUKYP	✓			✓	60		Carbon/Charcoal	Carbon Disulfide
TFQLFJ	✓			✓	80 for 16 hours		Carbon/Charcoal	Dichloromethane
TKPT6M	✓			✓	60	16 hours	Carbon/Charcoal	carbon disulfide
TKUAE6	✓			✓	65	15	Carbon/Charcoal	carbon disulfied
TTKUNL	✓			✓	80	4 hours	Carbon/Charcoal	Pentane
U7379U								
U78FBT	✓			✓	61	18 Hours	Carbon/Charcoal	CS2
U8GPYJ	✓					16 hours	Carbon/Charcoal	
UAL3Y7	✓			✓	76	19 hours	Carbon/Charcoal	Carbon Disulfide
UG7732	✓			✓	80	16 hours	Carbon/Charcoal	
UJMRAF	✓			✓	65	18 hours and 20 minutes	Carbon/Charcoal	CS2
UKDDNQ		✓		✓	100		TENAX TA	Thermal
Other Extraction Technique: SPME AND SOLVENT EXTRACTION (HEXANE)								
UKGFTB	✓			✓	65	16 hr	Carbon/Charcoal	Carbon Disulfide
UKJ4CA	✓		✓	✓	60	2hrs and overnight	Carbon/Charcoal	
ULFGY3	✓			✓	70	12 hours	Carbon/Charcoal	Ethyl ether
Other Extraction Technique: Static Headspace Analysis								
UPERV3	✓			✓	60		Carbon/Charcoal	CS2
UPLYCN	✓			✓	90	1 hour	Tenax	Thermal
UQUZD3	✓		✓			16-24 hours	Carbon/Charcoal	Dichloromethane
UV8RNM	✓			✓	90	10 min		n-Pentane
UXAUWD	✓			✓	65	~16 hours	Carbon/Charcoal	carbon disulfide
V8JG44	✓			✓	80	8H	Carbon/Charcoal	Dichloromethane-Butanol
VBHTZ4	✓			✓	80	8 h	Carbon/Charcoal	Dichloromethane and Butan-1-ol
VFNP9K	✓			✓	80	4 hours	Carbon/Charcoal	Pentane
Other Extraction Technique: Headspace analysis								

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
VG96VZ	✓			✓	80		Carbon/Charcoal	Carbon disulfide
VJFFVB	✓		✓			16 Hours	Carbon/Charcoal	Carbon Disulfide
VRXB8J		✓	✓				Tenax	Thermal
Other Extraction Technique: SPME at 80 °C in addition to Tenax adsorption								
W4AWCX	✓			✓	70	10 hours	Carbon/Charcoal	Ethyl Ether
Other Extraction Technique: Static Headspace extraction, 70 C for 30 minutes								
W4EBXW	✓			✓	80		Carbon/Charcoal	CS2
W6KZLF	✓		✓			16 hours	Carbon/Charcoal	carbon disulfide
WA28EA		✓	✓	✓	80-100		Tenax	DKM (ACS), Thermal
Other Extraction Technique: ACS (Activated Charcoal Stripe)								
WAVPNX	✓			✓	65	16 hours	Carbon/Charcoal	CS2
WBADM4	✓			✓	60-70	approximately 16 hours	Carbon/Charcoal	Carbon Disulfide
WF7YTW	✓			✓	65	~19 hours	Carbon/Charcoal	carbon disulfide
WHD9UH		✓		✓	80	5 minutes	Carbon/Charcoal	Pentane
WJZYUM	✓			✓	80	6 h	Carbon/Charcoal, Tenax TA	carbon disulfide, Thermal
Other Extraction Technique: direct headspace (room temp.)								
WLTRQ7	✓			✓	67	16 hours	Carbon/Charcoal	Carbon Disulfide
WUK33M	✓			✓	90		Carbon/Charcoal	CS2
WZAM4G		✓		✓	100		TENAX	Thermal
X8RGP7	✓			✓	65	17 hrs	Carbon/Charcoal	Carbon Disulfide
Other Extraction Technique: Static headspace (heated in oven @ 60C for 20 min)								
X9MWLU	✓			✓	70	approximately 16 hours	Carbon/Charcoal	Pentane and Hexane
XJVWHN	✓			✓	75	1 hour	Carbon/Charcoal	Carbon disulfide
XPCWGZ	✓			✓	80	8h	Carbon/Charcoal	Diethyl ether / butanol (half of charcoal each)
XPQJKN	✓			✓	60	2 hours	Carbon/Charcoal	carbon disulfide
XXGBLM	✓			✓	80	18.5 hours	Carbon/Charcoal	Carbon disulfide
Y6DBR3	✓			✓	65	10 min	SPME black	Thermal
Other Extraction Technique: Headspace gas, Solvent extraction(methylene chloride)								
Y6R2FD	✓			✓	80	24 hours	Carbon/Charcoal	Carbon Disulfide
Y87CNJ	✓			✓	63	~ 22.5 hours	Carbon/Charcoal	carbon disulfide
YA93ZZ		✓		✓	85	20 min	Carbon/Charcoal	carbon disulfide
Other Extraction Technique: heated headspace (heated 5 minutes)								

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 2

WebCode	Adsorption Headspace		Adsorption Temp			Adsorption Duration	Adsorbent	Desorption
	Passive	Dynamic	Rm Temp	Heated	(°C)			
YDCTD7	✓			✓	130	15 min	SPME	Thermal
YEMVY6	✓			✓	67	4 hours	Carbon/Charcoal	Pentane
YMBTGX	✓			✓	80	~16 hours	Carbon/Charcoal	carbon disulfide
YNCH6R	✓			✓	63	17 hours	Carbon/Charcoal	CS2
YZLYYR	✓			✓	60		Carbon/Charcoal	Carbon Disulfide
Z7AZUM	✓				70	16	Carbon/Charcoal	Carbon Disulfide
ZE2JXB	✓			✓	70	5 hours	Carbon/Charcoal	Carbon disulfide
ZLJ6QF	✓			✓	65	16 hrs.	Carbon/Charcoal	CS2
Other Extraction Technique: static headspace								
ZV4EAH	✓			✓	70	16 Hrs	Carbon/Charcoal	CS2
Other Extraction Technique: Heated headspace, direct injection								
ZZVPZ8	✓			✓	65	~16 hrs	Carbon/Charcoal	CS2

Response Summary

	Adsorption Headspace		Adsorption Temp		Adsorbent		Desorption	
Participants	Passive	Dynamic	Rm Temp	Heated	Carbon/Charcoal	Other	Thermal	Solvent
280	253	20	30	251	227	36	35	231

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

Identification Techniques

TABLE 3

WebCode	GC	GC/MS	Other
23GRM8		✓	
24WTRU		✓	
29D6YW		✓	
2CRT98		✓	
2KK77L		✓	
2LW4DC		✓	
2PGTAU		✓	
2PZTWW		✓	
2QD7XL		✓	
2TDENR		✓	
2X8E69		✓	
2Y33DV		✓	
2Z9GQ4		✓	
364T4E		✓	GC/FID
36H299		✓	
3934YE		✓	
3ERFJB		✓	
3HAUU3	✓	✓	
3LMNF2		✓	
3PBZGT		✓	
3PX7DW		✓	
3Q7JVY		✓	
3WQLJ6		✓	
3YEBMH		✓	
43PRDX		✓	
49E3R3		✓	
4BCD3V		✓	HS-GC/MS
4FY9K3		✓	
4HNMY6		✓	
4QZQ2X		✓	
4YPGHX		✓	
63MBYZ	✓	✓	
6786XL		✓	
6A7L9U		✓	
6EYFB2		✓	
6MX8GB		✓	GC/FID
6NQ2CU		✓	
6NQVY7		✓	
6PHWY3		✓	
6VCU3J			Passive Headspace GC/MS
73UJ3J		✓	
74N8KE		✓	
78DWJ8		✓	
7BWYDX		✓	
7GJWVU		✓	
7JAVFJ		✓	
7JUQWC		✓	
7LWU99		✓	
7NQ6VW		✓	
7RLCKY		✓	
7T4ZLP		✓	
7XVBGX		✓	
86T9R8		✓	
8A2W69		✓	
8A4LA7		✓	
8FNQXZ		✓	
8JQDR4		✓	
8JXD9J		✓	
8MVRYU		✓	
8NHVR2		✓	
8PAWQX		✓	
9AUXGQ		✓	
9B9MGW		✓	
9F2JAU		✓	
9KNU3R		✓	

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
9MAXBP		✓		BHZGTL		✓		ETDX7L		✓	
9XGXKX		✓		BWNQPQ		✓		ETWGDE		✓	
9YGVZY		✓		C4ELWL		✓	GC/FID	EU44CT		✓	
9ZCHMN		✓		C4ENHJ		✓		EVCCG8	✓	✓	
A2Y9H2		✓		C9C2Q3	✓	✓		EWZCY3		✓	
A3Q9HX		✓		CE7WL8		✓		F2WUCU		✓	
A4VN7H		✓		CH79H8		✓		FCY3Z8		✓	
A7FRHL		✓		CMURP6		✓		FNRKLY		✓	
A9EXX2		✓		CN343Z		✓		FNT86X		✓	
ADRUKQ		✓		CTETNV		✓		FTJMRK		✓	
AELH3L		✓		D64CHQ		✓		FYZZTJ		✓	
AFHXG4		✓		DM4F42		✓		GDPGYG		✓	
ALK6W7		✓		DNF2PW		✓		GFBJLF	✓	✓	Odor Assessment
AMV7FK		✓		DV9YWJ		✓		GKRJ73		✓	
ARUBH6		✓		DZDQY6		✓		GMUFVW		✓	
ATCCRK		✓		EA3ZTH		✓		GRQ9M7	✓	✓	
AU7ZBF		✓		ECJ9Z7		✓		GVRAZ9		✓	
AXH8YF		✓		EGGMR3		✓		GWJEYN		✓	
B36EWE		✓		EGHPCZ		✓		GXFQZH		✓	
B4HUJM		✓		EMJ7JY		✓		H3VFEB		✓	
BAWJ49		✓		EP98PM		✓		H4LQ4K		✓	
BG7TBP		✓		EPRZUR		✓		HARD3E	✓	✓	
BH8LP9		✓		ERWJQE		✓		HFF44H		✓	

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 3

WebCode	GC	GC/MS	Other
HHLHVF		✓	headspace GCMS
HNNMEZ		✓	
HT6WYH		✓	headspace GC/MS
HUPQFR		✓	
J7JFZY		✓	
J9EZZ3		✓	
JADJFJ		✓	
JKGUT2	✓	✓	GC/FID
JLE6P4		✓	
JLXNUB	✓	✓	
JPE7YY		✓	
JRZXZ4		✓	
JUULW4	✓	✓	
JWQE9M		✓	
JXNP4Q		✓	
JZGBGD		✓	
K23GUJ		✓	
K4AZRJ		✓	
K64NAE		✓	
K6LRRM		✓	
KH77VM			ATD-GC-MS
KM3X2X		✓	
KQPB7V		✓	
KYTRB7		✓	
KZ77YF		✓	
L39LJQ		✓	
L3B93Q		✓	
L6CCUD		✓	
LALZA3		✓	
LATF6N		✓	
LDUM6T		✓	
LFHUUV		✓	
LGNLFG		✓	
LP7V4E		✓	
LPKEU3		✓	
LQHPP7		✓	
LTAJ3Z		✓	
LTAJZE		✓	
LVHVJ2		✓	
LW9XCK		✓	
M3NZTL		✓	
M9VJZR	✓	✓	
MA6J9E		✓	
MBXRXA	✓	✓	assess any unavoidable odor
MR4Q7D		✓	
MUVPKC		✓	
MY9MUK	✓	✓	
N2MUKQ		✓	
NACY2X		✓	
NBFXWZ		✓	
NJWEJ9		✓	
NQH4NA		✓	headspace GC/MS
NR4B98	✓	✓	Odor assessment
NWK98V		✓	
P27NBT		✓	
P63LBJ		✓	
P7DGXB		✓	
P7F9TX		✓	
PA3KUP		✓	
PAGAVF		✓	
PECNWK		✓	
PJJCC8		✓	
PQ6A3F		✓	
PTCK4P		✓	
PULR4W		✓	
PUNG9U	✓	✓	
PYFNQ3		✓	
Q3YW2N		✓	

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
QFJHX3	✓	✓		TKUAE6		✓		W4AWCX		✓	
QFL93Z		✓		TTKUNL		✓		W4EBXW		✓	
QHBML9		✓		U7379U	✓			W6KZLF		✓	
QMY7QJ		✓		U78FBT		✓		WA28EA		✓	TD-GC-MS
QTXDTR		✓		U8GPYJ		✓		WAVPNX		✓	
QWRCPC		✓		UAL3Y7		✓		WBADM4		✓	
QZRJ9N		✓		UG7732		✓		WF7YTW		✓	
RA9UVK		✓		UJMRAF		✓		WHD9UH		✓	
RB3KYE		✓		UKDDNQ		✓	GC/ATD	WJZYUM	✓	✓	
RB78CL		✓		UKGFTB		✓		WLTRQ7		✓	
RJLP88		✓		UKJ4CA		✓		WUK33M		✓	
RJZE7D		✓		ULFGY3		✓		WZAM4G		✓	
RNZB2W		✓		UPERV3		✓		X8RGP7		✓	
RUX7MQ		✓		UPLYCN		✓		X9MWLU		✓	
RWZ7HG		✓		UQUZD3		✓		XJVWHN	✓	✓	
RZLXQD		✓		UV8RNM		✓		XPCWGZ		✓	
T2HEUN		✓		UXAUWD		✓		XPQJKN		✓	
T479DA		✓		V8JG44		✓		XXGBLM		✓	
T6TWMN		✓		VBHTZ4		✓		Y6DBR3		✓	
T8GBAD		✓		VFNP9K		✓		Y6R2FD		✓	
TBUKYP		✓		VG96VZ		✓		Y87CNJ		✓	
TFQLFJ		✓		VJFFVB		✓		YA93ZZ		✓	
TKPT6M		✓		VRXB8J		✓		YDCTD7		✓	FID

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
YEMVY6		✓									
YMBTGX		✓									
YNCH6R		✓									
YZLYYR		✓									
Z7AZUM		✓									
ZE2JXB		✓									
ZLJ6QF		✓									
ZV4EAH		✓									
ZZVPZ8		✓									

Response Summary

Participants	GC	GC/MS
280	19	277

Revised: November 17, 2022. Added one participant's data and updated Summary Comments.

Conclusions

TABLE 4

WebCode	Conclusions
23GRM8	A petroleum distillate in the medium range was identified in Item #1, examples of which include some paint thinners, some charcoal starters, and some dry cleaning solvents. Gasoline was identified in Item #2. No ignitable liquids were identified in Item #3.
24WTRU	The above items were extracted using passive adsorption/elution and analyzed using Gas Chromatography/Mass Spectrometry (GC/MS). Lab item 1: A medium petroleum distillate ignitable liquid residue and a light aromatic product were identified. Examples of a medium petroleum distillate include but are not limited to some charcoal starters, some paint thinners, and some dry cleaning solvents. Examples of a light aromatic product include but are not limited to some paint and varnish removers, some automotive parts cleaners, xylenes or toluene-based products. Lab item 2: Gasoline was identified. Lab item 3: This item is listed as a comparison sample. This comparison sample was analyzed, and the results were used in evaluating possible matrix influences on other submitted sample(s). No ignitable liquids were identified.
29D6YW	A medium petroleum distillate, such as mineral spirits or a similar speciality product was detected on Item 1. Gasoline was detected on Item 2. No flammable liquid was detected on Item 3.
2CRT98	The extract from item 1 was found to contain a volatile mixture which was identified as a medium miscellaneous product, consisting of a medium petroleum distillate and an aromatic product. It cannot be determined if these are two separate products or a commercial blend. The extract from item 2 was found to contain a volatile mixture which was identified as gasoline. No common ignitable liquid residues were detected in the extract from item 3. This does not preclude the possibility that an ignitable liquid may have been present at an earlier time. Ignitable liquids are volatile compounds that could have evaporated, been consumed in a fire, environmentally altered or removed, or are otherwise indistinguishable from background materials.
2KK77L	An ignitable liquid residue consistent with a miscellaneous mixture was identified in Item 1. Miscellaneous ignitable liquids include various commercial and industrial products or specialty mixtures that cannot be further classified. A residue of gasoline, an ignitable liquid, was identified in Item 2. No ignitable liquid residues were detected in Item 3.
2LW4DC	ITEM 1: Medium petroleum distillate, examples of which are some charcoal starters, some paint thinners, and some dry cleaning solvents. ITEM 2: Gasoline. ITEM 3: No flammable or combustible liquids were found. Used for comparison to Items 1 and 2.
2PGTAU	Item #1 - Cloth Remnant: A 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. The distribution of the aromatic fraction, rich in C2-benzenes, is unusual for these distillates and may provide additional support for the presence of this particular medium petroleum distillate. Item #2 - Cloth Remnant: A gasoline product was detected in Item #2 based on the ASTM 1618 classification scheme. Examples of products which contain these distillates include all forms of gasoline products. Item #3 - Control Samples - Cloth Remnant: Item #3 was provided for background substrate and was negative for the presence of accelerants.
2PZTWW	Sample "Item 1" contained a medium petroleum distillate. These products are used for many applications from barbecue lighter to solvents. In this case it might be explained by a paint solvent. This could be clarified by sending in a comparsion sample from the paint solvents used in the art studio. Sample "Item 2" contained gasoline.
2QD7XL	Item 1.1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Miscellaneous Product. Examples of a Medium (C8-C13) Miscellaneous Product include some blended products and some specialty products. Item 1.2: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Gasoline. Item 1.3: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following:

TABLE 4

WebCode	Conclusions
	No ignitable liquids/ignitable liquid residues identified. 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.
2TDENR	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 if item 2 revealed the presence of a petroleum product characteristic of gasoline.
2X8E69	Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). A Light Aromatic product was identified. Examples of this type ignitable liquid include: some paint and varnish removers, some automotive parts cleaners , xylenes and toluene-based products. A Medium Petroleum Distillate was also 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). Gasoline was identified in the sample.
2Y33DV	1) Medium petroleum distillate, similar to an American mineral spirit, C6-C13. 2) Gasoline, similar to American gasoline products. 3) No flammable liquid detected, this may mean that there was no flammable liquid originally present or that any flammable liquid originally present had evaporated to below the detectable limit.
2Z9GQ4	Item 1 contained a miscellaneous class product consisting of xylenes and a medium petroleum distillate. Examples include brush cleaners and charcoal starters. Item 2 contained gasoline. Item 3 was analyzed for comparison purposes only. No ignitable liquids were detected.
364T4E	Item 1 The exhibit was analysed for the presence of ignitable liquid residues and ethylbenzene, xylenes and 2,2,4-trimethyl-1,3-pentanediol diisobutyrate could be detected. Straight-chain alkanes, branched-chain alkanes and cycloalkanes in the range of C9 to C12 could also be detected. Item 2 The exhibit was analysed for the presence of ignitable liquid residues and petrol was detected. Item 3 The exhibit was submitted as a control for the exhibits marked “Item 1” and “Item 2”. The exhibit was analysed for the presence of ignitable liquid residues and no ignitable liquid residue was detected, other than compounds associated with the exhibit.
36H299	GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #1 - 22-5436-Item 1 - revealed the presence of compounds having retention times and mass ions characteristic of a miscellaneous product. Components included a light aromatic product and a medium petroleum distillate. Light aromatic products include some paint and varnish removers, some automotive parts cleaners and toluene and xylenes based products. 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 - 22-5436 Item 2 - revealed the presence of compounds having retention times and mass ions characteristic of components of weathered gasoline and a medium petroleum distillate. Medium petroleum distillate products include some paint thinners, some charcoal starters and some dry cleaning products.
3934YE	It was determined utilizing activated charcoal strip extraction and gas chromatography/mass spectrometry analysis that item 1 exhibited the presence of a petroleum distillate in the medium range and item 2 exhibited the presence of gasoline. It is noted that item 3, control sample, did not exhibit the presence of any ignitable liquid.
3ERFJB	Item 001-001: Residues of a Medium Petroleum Distillate (dearomatized MPD), ethyl benzene, and xylenes were identified. Item 001-002: Gasoline residues were identified. Item 001-003: No ignitable liquid residues were identified.
3HAUU3	Traces of an organic mixture containing medium petroleum distillates were found in Item 1 whilst

TABLE 4

WebCode	Conclusions
	traces of gasoline was found in Item 2. Nothing of significance pertaining to ignitable liquid residues was found in Item 3, the sample being intended as a comparison blank.
3LMNF2	Item 1 contained an ignitable liquid residue classified as a medium-range Others - Miscellaneous product composed of xylenes and a medium-range petroleum distillate. Commercially available products that may incorporate these components in their formulations include, but are not limited to, some blended products and some specialty products (e.g. brush cleaners, adhesive removers, and cleaning solvents). Item 2 contained an ignitable liquid residue classified as gasoline. No ignitable liquid residues were identified in Item 3. This exhibit was evaluated as a comparison sample.
3PBZGT	Evidence addressed in this report was received into the laboratory on August 3, 2022. Analysis for diffusive ignitable liquid residues using Adsorption Trapping with Activated Charcoal, followed by Gas Chromatography / Mass Selective Detection: Item #1: Medium Petroleum Distillate (with Elevated Light Aromatics). Examples of medium petroleum distillates include (but are not limited to) paint thinners, dry cleaning solvents, mineral spirits and some brands of charcoal starter fluids. Examples of light aromatic products include (but are not limited to) automotive parts cleaners, solvent cleaners and lacquer thinners. Such distillate blends are also found in (but are not limited to) some wood staining oils, super glaze liquid wax, paint brush cleaners, degreaser/adhesive removers, fabric/furniture protectors, insecticides and fungicides. Unable to determine if this is a mixture or is considered as a 'neat' medium petroleum distillate as -is or is simply a single source miscellaneous petroleum product. Item #2: Gasoline. Item #3: No Ignitable Liquid Residues Identified. All Evidence has already been returned to the PT Vault. 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.
3PX7DW	Residues of a miscellaneous product in the medium range was identified on Item 1. Examples of miscellaneous products in the medium range include some charcoal starters, some brush cleaners, some paint thinners, and some mineral spirits. These products are ignitable liquids. Residues of gasoline, an ignitable liquid, were identified on Item 2. Item 3 was negative for ignitable liquids when compared to Items 1 and 2.
3Q7JVY	A miscellaneous solvent containing a light aromatic solvent and a medium petroleum distillate. Sources of a light aromatic solvent includes xylol (xylenes) and other solvent cleaners. Sources of a medium petroleum distillate includes some charcoal starters and some paint thinners. This product could also be a blended product from a manufacturer for the purpose of a proprietary formulations including some gloss cleaners and some brush cleaners. Gasoline was present in Item 2. No ignitable liquid residues were detected in item 3.
3WQLJ6	Item one was a section of white material in a sealed nylon bag. The article was examined when the presence of white spirit was detected. Item two was a section of white material in a sealed nylon bag. The article was examined when the presence of petrol and a hydrocarbon mixture was detected. This hydrocarbon mixture can be found in commercially available products such as paraffin and turpentine substitute. Item three was a section of white material in a sealed nylon bag. The article was examined for the presence of commonly encountered accelerants eg. petrol, paraffin etc with a negative result. We would expect the presence of white spirit and other paraffinic products in an artists studio, especially on a painting lab coat. We would not expect to detect petrol and/or paraffinic products in an artist studio or on a curtain. This provides strong support for the proposition that the fire in the studio had been deliberately started.
3YEBMH	[No Conclusions Reported.]
43PRDX	We have found petroleum distillate from Item No.1 and which showed alkanes in C8 to C12. In case of Item No.2, gasoline was confirmed based on peaks such as alkanes in the range of C7 to C14, aromatics, and PNAs.
49E3R3	Items 1, 2, and 3 were extracted using a passive adsorption-elution technique. The Item 1, 2, and 3 extracts were examined using Gas Chromatography-Mass Spectrometry (GC-MS). The Item 1 extract

TABLE 4

WebCode	Conclusions
	contained a mixture of ethylbenzene and xylenes (a light aromatic product), and a medium petroleum distillate. This mixture can be found in, but is not limited to, some paint thinners. The light aromatic product can be found in, but is not limited to, some adhesive removers. The medium petroleum distillate can be found in, but is not limited to, some mineral spirits, paint thinners and charcoal starter fluids. The Item 2 extract contained gasoline. No ignitable liquids were identified in the Item 3 extract.
4BCD3V	A miscellaneous product was identified on the Item 1 fabric. Miscellaneous products are ignitable liquids and include some mineral spirits, some fuel additives, and some paint thinners. Gasoline was identified on the Item 2 fabric. Gasoline is an ignitable liquid.
4FY9K3	Item 1 extract contains a medium miscellaneous product. Examples of medium miscellaneous products may include but are not limited to some brush cleaners, some mineral spirits and some paint thinners. Item 2 extract contains gasoline. Gasoline contains all brands and grades of automotive gasoline including gasohol and E85.
4HNMY6	Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1A) detects the presence of a medium petroleum distillate (MPD) and a (light) aromatic product; or a blended product/miscellaneous product that contains a medium petroleum distillate (MPD) and a (light) aromatic product. Examples of blended products/miscellaneous products include: some enamel reducers, and some specialty products. 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. Examples of aromatic products include: some paint and varnish removers, some automotive parts cleaners. Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1B) detects the presence of gasoline. Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1C) fails to detect the presence of any ignitable liquids. The procedure employed does not detect the presence of light volatiles such as certain alcohols and acetone. alcohols and acetone.
4QZQ2X	Instrumental 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. Instrumental analysis of Item 1 also revealed the presence of an aromatic solvent. Products in this range include, but are not limited to: some paint thinners, some insecticides, some fuel additives, and some cleaning solvents. It could not be determined whether this item contained a single commercial product or a mixture of two individual products. Instrumental analysis of Item 2 revealed the presence of gasoline. This result includes all brands and grades of automotive fuels. Instrumental analysis of Item 3 did not reveal the presence of any ignitable liquid residue. This result does not eliminate the possibility that an ignitable liquid was used. Results were confirmed by the following instrumentation: Gas Chromatograph/Mass Spectrometer
4YPGHX	Item 1 and 2 were analyzed for the presence of ignitable liquid residues by GC/MS. According to the ASTM E 1618-19 Ignitable Liquid Classification Scheme, Item 1 indentifies the class for medium petroleum distillate and Item 2 indicates the class for Gasoline. No ignitable liguid residues in item 3.
63MBYZ	In item 1 volatile components have been identified which originate from a medium petroleum distillate. The relative abundance of aromatic components is high. Therefore the volatile components are classified as class others-miscellaneous. The composition of volatile components can also originate from two separate products. In item 2 volatile components have been identified which originate from gasoline.
6786XL	Exhibit 1 contained an aromatic product and a medium petroleum distillate, both of which are ignitable liquids. Examples of aromatic products include some paint/varnish removers, some automatic parts cleaners, and some cleaning solvents. Examples of medium petroleum distillates include some charcoal starters, some torch fuels, and some cleaning solvents. It should be noted that it could not be determined if the source of the aromatic product and medium petroleum distillate was from a mixture of two individual products or from a single commercial product. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were identified in Exhibit 3.

TABLE 4

WebCode	Conclusions
6A7L9U	Instrumental 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. Instrumental analysis of Item 1 also revealed the presence of an aromatic solvent. Products in this range include, but are not limited to: some paint thinners, some insecticides, some fuel additives, and some cleaning solvents. Instrumental analysis of Item 2 revealed the presence of evaporated gasoline. This result includes all brands and grades of automotive fuels. Instrumental analysis of Item 3 did not reveal the presence of any ignitable liquid residue. This result does not eliminate the possibility that an ignitable liquid was used. Results were confirmed by the following instrumentation: Gas Chromatograph/Mass Spectrometer
6EYFB2	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. Gasoline was identified in Item #2. There were no ignitable liquids identified in Item #3.
6MX8GB	"Item 1" was analysed for the presence of ignitable liquid residues and ethylbenzene, xylenes and 2,2,4-trimethyl-1,3-pentanediol diisobutyrate could be detected, and cycloalkanes, branched alkanes and n-alkanes in the range of C9 to C12 were detected. "Item 2" was analysed for the presence of ignitable liquid residues and petrol was detected. "Item 3" was analysed for the presence of ignitable liquid residues and none was detected. "Item 3" was submitted as a control sample to "Item 1" and "Item 2".
6NQ2CU	The following items were examined for the presence of ignitable liquids: Item 1 lab coat Analysis Result: A medium miscellaneous product was detected in Item 1. Examples of miscellaneous products include some gloss removers and paint thinners. Item 2 curtain Analysis Result: Gasoline was detected in Item 2. Item 3 comparison blank Analysis Result: No ignitable liquid was identified in Item 3. Analysis performed using passive headspace concentration with activated charcoal and gas chromatography with mass spectrometry.
6NQVY7	Gas Chromatograph-Mass Spectrometer Analysis (Heated Headspace Sampling / Passive Headspace Concentration) of the submitted material yielded the following results and conclusions: Item #01 - A medium range miscellaneous product (medium petroleum distillate with elevated light range aromatics) was identified. Examples of medium range miscellaneous products of the type identified include, but are not limited to, some gloss removers, some mineral spirits, some paint thinners, and some brush cleaners. The ignitable liquid identified in Item #01 could have originated from a single miscellaneous product or from a mixture of a light aromatic product and a medium petroleum distillate. Item #02 - Gasoline was identified. Item #03 (Comparison sample for Items #01 and #02) - No ignitable liquids were identified
6PHWY3	A light-range aromatic product (xylenes) and a medium-range petroleum distillate were identified in item 1. This combination may be commercially available as a blended specialty product, or may result from a mixture of separate individual products. Examples of blended products containing xylenes and a medium-range petroleum distillate include, but are not limited to, brush cleaners. Separate examples of products containing light-range aromatic products include, but are not limited to, solvent cleaners and lacquer thinners. Separate examples of products containing medium-range petroleum distillates include, but are not limited to, paint thinners and charcoal starters. Gasoline was identified in item 2. No ignitable liquids were detected in item 3, which was evaluated as a comparison sample.
6VCU3J	Ignitable liquids were detected on both Item 1 and Item 2. ITEM (1) contains medium range Petroleum Distillates. ITEM (2) contains medium range Gasoline.
73UJ3J	Item 1.1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Miscellaneous Product. Examples of a Medium (C8-C13) Miscellaneous Product include some blended products and some specialty products. Item 1.2: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Gasoline. Item 1.3: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following:

TABLE 4

WebCode	Conclusions
	No ignitable liquids/ignitable liquid residues identified. 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.
74N8KE	[No Conclusions Reported.]
78DWJ8	Item 1: Findings: n-alkanes and branched alkanes, alkenes/cycloalkanes, alkines in the range of C8-C14, ethylbenzene, m-, p-, o-xylene Assessment: Due to the findings it is most probable that the cloth remnant from the painting lab coat contained a medium petroleum distillate product (e.g. paint thinners, dry cleaning solvents, charcoal starters). Item 2: Findings: ethylbenzene, m-, p-, o-xylene, toluene, cumene, propylbenzene, ethyltoluene, mesitylen, pseudocumene, hemellitole, isooctane, ethanol Assessment: Due to the findings it has to be considered that the cloth remnant from a section of the curtain contained gasoline. Item 3: No ignitable liquids were detected. Conclusion: Based on the analytically detected components, we anticipate item 1 contains a medium petroleum distillate. However, since item 1 was secured in a painting studio, it cannot be excluded that the detected component of item 1 originates from a product (e.g. paint thinner) used in the studio. Based on the analytically detected components, we anticapate item 2 contains gasoline. However, since item 2 was secured in a painting studio, it cannot be excluded that the detected component of item 2 originates from a product (e.g. paint thinner) used in the studio. The products on item 1 and 2 are ignitable liquids and may be used to initiate or accelerate an arson.
7BWYDX	Item 1: An ignitable liquid classified as a medium petroleum distillate was detected. Examples of medium petroleum distillates include some charcoal starters, paint thinners, and oil-based wood finishes. Item 2: An ignitable liquid classified as gasoline was detected. Item 3: An ignitable liquid was not detected. For archival purposes, the unused carbon strips from items 1-3 and an empty bag were booked as item 4.
7GJWVU	Item 1: There are significant xylenes and consecutive n-alkanes of C9 to C12(medium). Characteristic patterns of cycloparaffinic and isoparaffinic compounds appear among the n-alkanes. Item 2: GC-MS chromatogram shows us characteristic but somewhat evaporated peak pattern of gasoline.
7JAVFJ	Item 1 consists of a white cloth cutting. This item was found to contain a mixture of a medium petroleum distillate and a light to medium aromatic solvent. This mixture may be a commercially available product. Item 2 consists of a white cloth cutting. This item was found to contain gasoline.
7JUQWC	An ignitable liquid classified as a heavy Isoparaffinic product was identified in item 1 and ignitable liquid classified as a medium Petroleum Distillates in item 2, Examples of Heavy Isoparaffinic product is Spot Cleaners, and medium Petroleum Distillates is Paint Thinners. No recognizable ignitable liquids were identified in them 3.
7LWU99	item 1 is a MPD with elevated aromitcs (type mineral spirits like varnish-, maintenance- or cleaning product). item 2 is a gasoline (with ethanol; type gasoline RON89).
7NQ6VW	Analysis of Item 1 revealed the presence of a medium petroleum distillate (MPD). Examples of this class are charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticides. Analysis of Item 2 revealed the presence of gasoline.
7RLCKY	Item 1 was found to contain a mixture of a light range aromatic product and a medium range petroleum distillate. This could be a blended, specialty product such as a brush cleaner or mineral spirits or a mixture of two separate products such as xylenes or solvent cleaners and charcoal starters or paint thinners. Item 2 was found to contain gasoline. No ignitable liquids were detected in item 3 which was reported to be a comparison blank.
7T4ZLP	Item #1 Cloth Remnant from the Painting Lab Coat Sealed in a Nylon Evidence Bag A medium petroleum distillate was detected in item#1. Examples of products that contain medium petroleum

TABLE 4

WebCode	Conclusions
	distillates are some charcoal lighters, some paint thinners, and some dry cleaning solvents. Item #2 Cloth Remnant from a Section of the Curtain Sealed in a Nylon Evidence Bag Gasoline was detected in item #2. Item #3 Cloth Substrate Intended as a Comparison Blank in a Nylon Evidence Bag No ignitable liquid was detected in item #3.
7XVBGX	Evidence addressed in this report was received into the laboratory on August 3, 2022. Analysis for diffusive ignitable liquid residues using Adsorption Trapping with Activated Charcoal, followed by Gas Chromatography / Mass Selective Detection: Item #1: Aromatics (Xylenes) and a Medium Petroleum Distillate. Examples of such aromatics include (but are not limited to) cleaning solvents, paint thinners and varnish removers. Examples of medium petroleum distillates include (but are not limited to) paint thinners, dry cleaning solvents, mineral spirits and some brands of charcoal starter fluids. Unable to determine if this is a mixture or a single source miscellaneous petroleum product. Item #2: Gasoline. Item #3: No Ignitable Liquid Residues Identified. All Evidence will be returned to the Evidence Receiving vault. 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.
86T9R8	Miscellaneous ignitable liquid residues were detected in Items 001-1 Miscellaneous ignitable liquid residues were detected in Item 001-2. No common ignitable liquid residues were detected in Item 001-3.
8A2W69	Gasoline, an ignitable liquid, was identified in Item 1. A Medium Petroleum Distillate and a Light Aromatic Product were identified in Item 2. Medium petroleum distillates are ignitable liquids which include some charcoal starters, paint thinners and dry-cleaning solvents. Light aromatic products are ignitable liquids which include some paint and varnish removers and automotive parts cleaners. It cannot be determined whether this is a single product or a mixture of multiple products. No ignitable liquid residues were identified in Item 3.
8A4LA7	A mixture containing a light aromatic product and a medium petroleum distillate was identified in Item 1. Examples of a light aromatic product include automotive parts cleaners, xylenes and lacquer thinners. Examples of a medium petroleum distillate include some charcoal starters, paint thinners, and degreasing solvents. The ignitable liquids present may result from two sources or may be a commercially produced product. Gasoline was identified in Item 2. No ignitable liquids were detected in Item 3 comparison sample.
8FNQXZ	Item 1 was found to contain both a medium-range petroleum distillate (MPD) and xylenes (a light-range aromatic product). This combination could be two separate commercial products, or a specialty product containing a blend of an MPD and xylenes. Accidental or purposeful blending of products cannot be discounted. Examples of medium-range petroleum distillates include, but are not limited to, some paint thinners, some mineral spirits, and some charcoal starters. Examples of light-range aromatic products include, but are not limited to, xylenes, some automotive parts cleaners, some solvent cleaners, and some lacquer thinners. Item 2 was found to contain gasoline. No ignitable liquids were detected in item 3.
8JQDR4	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 1618-19 Standard Methods as medium others-miscellaneous. 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 1618-19 Standard Methods as medium petroleum distillates and gasoline. 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 1618-19 Standard Method. 4) The medium others-miscellaneous, the medium petroleum distillates and the gasoline are a ignitables 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.
8JXD9J	Item #1 showed the presence of a miscellaneous class ignitable liquid (Medium Petroleum Distillate +

TABLE 4

WebCode	Conclusions
	Aromatics). The ignitable liquid product may be composed of the evaporated product "Sunnyside Brush Cleaner" or another ignitable liquid with similar chemical components. Item #2 showed the presence of gasoline.
8MVRYU	[No Conclusions Reported.]
8NHVR2	Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC/MS). A Medium Other-Miscellaneous type product was identified. Examples of this type ignitable liquid include: turpentine products, some blended products and various specialty products. Item 2: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC/MS). Gasoline was identified in the sample.
8PAWQX	Item 1 was found to contain xylenes and a medium petroleum distillate (MPD). Examples of products that contain xylenes and a MPD includes (but is not limited to) adhesive removers and brush cleaners. Item 2 was found to contain gasoline. No ignitable liquid residue was detected in Item 3.
9AUXGQ	Item 1 - A light aromatic product and a medium petroleum distillate were identified. It could not be determined whether this item contained a single commercial product or a mixture of individual products. Examples of products which contain such a mixture include, but are not limited to, some gloss removers and some automotive parts cleaners. Examples of a light aromatic product include, but are not limited to, xylenes, some automotive parts cleaners, some lacquer thinners, and some solvent cleaners. Examples of a medium petroleum distillate include, but are not limited to, some charcoal starters, some paint thinners, and some automotive parts cleaners. Item 2 - Gasoline was identified. Gasoline includes all brands and types including gasohol. Item 3 - No ignitable liquid was identified.
9B9MGW	Item 1 extract: Positive for Medium Miscellaneous Product Examples of Medium Miscellaneous Products include but are not limited to turpentine, blended and specialty products. Item 2 extract: Positive for Gasoline Gasoline contains all brands and grades of automotive gasoline including gasohol and E85. Item 3 extract: No ignitable liquids were identified The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. Item 3 was used as a comparison sample for Item 1 and Item 2
9F2JAU	Item 1 Results: A mixture containing a light aromatic product and a medium petroleum distillate was found. This can be from a blended product or from a physical mixture. Examples of light aromatic products include, but are not limited to, solvent cleaners, lacquer thinners, paint and varnish removers, automotive parts cleaners, xylenes, and toluene-based products. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticides. Item 2 Results: Gasoline found. This includes any brand or octane, as well as any alcohol-blended gasoline. Item 3 Results: No ignitable liquids found.
9KNU3R	Item 1 contained a miscellaneous product composed of a light aromatic product and medium petroleum distillate. Item 2 contained gasoline. No ignitable liquid residues were identified on item 3.
9MAXBP	The analysis revealed the presence of two different ignitable liquids in item 1 and item 2. An others-miscellaneous class product was recovered from item 1 consisting of a mix of aromatics and a medium petroleum distillate. Gasoline was recovered in item 2. No ignitable liquids were detected in item 3.
9XGXKX	Item #1: light petroleum distillate. Item #2: gasoline. Item #3: negative for ignitable liquids
9YGVZY	Item 1 was not analyzed. Item 1.1 was extracted by passive adsorption/elution and analyzed by gas chromatography-mass spectrometry. Item 1.2 was extracted by passive adsorption/elution and analyzed by gas chromatography-mass spectrometry. Item 1.3 was extracted by passive adsorption/elution and analyzed by gas chromatography-mass spectrometry. Item 1. Not analyzed.

TABLE 4

WebCode	Conclusions
	Item 1.1. A miscellaneous mixture consisting of two petroleum products was identified in the heat-sealed fire debris bag containing an approximately 2" x 2" square piece of white cloth. The petroleum products identified were a) light aromatic product (xylenes) and b) medium petroleum distillate. Examples of products containing this specialty mixture are spar varnishes. Item 1.2. Partially evaporated gasoline was identified in the heat-sealed fire debris bag containing an approximately 2" x 2" square piece of white cloth. Item 1.3. No ignitable liquids were identified in the heat-sealed fire debris bag containing an approximately 2" x 2" square piece of white cloth. A charcoal strip preserved in a glass vial was retained with each item of evidence to be returned to the submitting agency. The above interpretation does not represent the totality of the analyst's observations. Further questions and/or discussion is encouraged.
9ZCHMN	Mineral spirits or a similar specialty product were detected on Item 1. Gasoline was detected on Item 2. Flammable liquid was not detected on Item 3.
A2Y9H2	[No Conclusions Reported.]
A3Q9HX	Results and Conclusions: Item 1 contains a light aromatic product and a medium petroleum distillate. This combination of components could be a blended specialty product or a mixture of individual products. Examples of products that contain the aforementioned blend include some brush cleaners. Examples of products that contain light aromatics include some lacquer thinners and some solvent cleaners. Examples of products that contain medium petroleum distillates include some automotive parts cleaners, some charcoal starters, and some paint thinners. Item 2 contains gasoline. No ignitable liquids were detected in item 3, reported to be a comparison blank.
A4VN7H	A medium petroleum distillate profile was detected in Item 1. A gasoline profile was detected in Item 2. No ignitable liquid profile was detected in Item 3. Item 1: The profile for item 1 contained aromatics (e.g. m-&p-xylene), n-alkanes (e.g. nonane, decane), and other alkanes (branched and cycloalkanes) in the medium n-alkane range (~C9 – C12). I concluded the profile meets the ASTM E1618 requirements for a distillate product profile. Some examples of medium petroleum distillates include: charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, and varnishes. Item 2: The profile for item 2 contained abundant aromatics (e.g. 1,2,4-trimethylbenzene), abundant alkanes including n-alkanes (e.g. nonane, decane), other alkanes (branched and cycloalkanes), and indane; the profile spans the n-alkane range of ~C5 – C12. I concluded the profile meets the ASTM E1618 requirements for a gasoline profile. Item 3: No ignitable liquid profile was detected in item 3. The analysis cannot determine how or when the product came to be part of the item – the analysis simply detects the presence of the components. Note 1: The analysis includes testing for the presence of the following classes of ignitable liquids/residues: gasoline; light, medium, and heavy subclasses of petroleum distillates, isoparaffinic products, naphthenic-paraffinic products, aromatic products, normal alkane products, oxygenated solvents (including light volatile organic compounds such as methanol, ethanol, isopropanol, and acetone), and miscellaneous/other (ASTM E1618). Note 2: For clarification, a “C” followed by a number indicates a n-alkane containing that number of carbons (i.e. “C8” corresponds to octane, etc.).
A7FRHL	[No Conclusions Reported.]
A9EXX2	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 1618-19 Standard Methods as Medium Others – Miscellaneous Products. Examples of the product detected are some cleaning solvents and some liquid wax. 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 1618-19 Standard Methods as Gasoline. 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 1618-19 Standard Method. 4) The Medium Others – Miscellaneous Products and Gasoline are ignitable liquids. Ignitable liquid may start or accelerate a fire.
ADRUKQ	A medium petroleum distillate was detected in the extract of Item #1. Examples of medium petroleum

TABLE 4

WebCode	Conclusions
	distillates include some paint thinners, some charcoal starters, and some torch fuels. Gasoline was detected in the extract of Item #2. No ignitable liquids were detected in the extract of Item #3.
AELH3L	Evidence addressed in this report was received into the laboratory on August 3, 2022. Analysis for diffusive ignitable liquid residues using Adsorption Trapping with Activated Charcoal, followed by Gas Chromatography / Mass Selective Detection: Item #1: Light Aromatic Product and Medium Petroleum Distillate. Examples of light aromatic products include (but are not limited to) automotive parts cleaners, solvent cleaners, xylenes and lacquer thinners. Examples of medium petroleum distillates include (but are not limited to) paint thinners, dry cleaning solvents, mineral spirits and some brands of charcoal starter fluids. Unable to determine if this is a mixture or a single source petroleum product. Item #2: Gasoline. Item #3: No ignitable liquid residues identified. All evidence will be returned to the PT vault. 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.
AFHXG4	The volatile contents of Items 1, 2 and 3 were extracted using a passive adsorption/elution technique and analyzed by gas chromatography - mass spectrometry (GC-MS). A medium miscellaneous product was identified in Item 1 (Identification). The medium miscellaneous product was the combination of a light aromatic product and a medium petroleum distillate. It is possible that Item 1 could be from a single product or the combination of two different products. Examples of light aromatic products include, but are not limited to, automotive parts cleaners, solvent cleaners, xylenes and lacquer thinners. Examples of medium petroleum distillates include, but are not limited to, some charcoal starters, paint thinners and mineral spirits. Examples of single source products containing a light aromatic product and a medium petroleum distillate include, but are not limited to, some brush cleaners, gloss removers and liquid wax. Gasoline was identified in Item 2 (Identification). No ignitable liquid residues were detected in Item 3 (Not Detected).
ALK6W7	Items 2-1-1-1-2, 2-2-1-1-2, and 2-3-1-1-2 (ACS sample extracts) from the cloth remnant from the painting lab coat (item 2-1-1-1), the cloth remnant from a section of the curtain (item 2-2-1-1), and the cloth substrate intended as a comparison blank (item 2-3-1-1) were not analyzed. A medium miscellaneous ignitable liquid residue was detected in the ACS sample extract (item 2-1-1-1-1) from the cloth remnant from the painting lab coat (item 2-1-1-1). Examples of medium miscellaneous ignitable liquids are mineral spirits, fuel additives, spray lubricants, brush cleaners, paint thinners, and charcoal starters. Gasoline was detected in the ACS sample extract (item 2-2-1-1-1) from the cloth remnant from a section of the curtain (item 2-2-1-1). No ignitable liquid residues were detected in the ACS sample extract (item 2-3-1-1-1) from the cloth substrate intended as a comparison blank (item 2-3-1-1).
AMV7FK	Analysis of exhibit IL-a (item 1) detected the presence of a medium petroleum distillate (examples: some paint thinners, some mineral spirits, some charcoal starters, etc.) Analysis of exhibit IL-b (item 2) detected the presence of gasoline. Note: The term gasoline includes all brands and grades of automotive gasoline. Analysis of exhibit IL-c (item 3) failed to detect the presence of any ignitable liquids.
ARUBH6	A medium miscellaneous product residue was detected in Item 001-1. Gasoline residue was detected in Item 001-2. No common ignitable liquid residues were detected in Item 001-3.
ATCCRK	A medium petroleum distillate was identified in the cloth remnant from the painting lab coat sealed in a nylon evidence bag (item 1). Examples of products that may contain a medium petroleum distillate may include, but are not limited to charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticides. Gasoline was identified in the cloth remnant from a section of the curtain sealed in a nylon evidence bag (item 2).
AU7ZBF	A miscellaneous product was identified in Exhibit #001. The exhibit was found to contain both a light aromatic and a medium petroleum distillate. Light aromatics include some paint and varnish removers, Xylene-based products and Toluene-based products. Medium Petroleum Distillates include

TABLE 4

WebCode	Conclusions
	some paint thinners, some charcoal starters and some dry cleaning solvents. Gasoline was identified in Exhibit #002. No ignitable liquids were detected in Exhibit #003. All samples were extracted by Passive Headspace Concentration extraction with activated charcoal and analyzed by Gas Chromatography/ Mass Spectrometry. 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, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background material.
AXH8YF	No conclusion just results: Item 1 (Exhibit 1) – A medium miscellaneous product was detected. Examples of this class of ignitable liquid include Turpentine products, mineral spirits, fuel additives, spray lubricants, brush cleaners, paint thinners, citrus cleaners, and charcoal starters. Item 2 (Exhibit 2) – Gasoline was detected. Item 3 (Exhibit 3) – No ignitable liquid detected.
B36EWE	The above items were examined in accordance with [Laboratory] Forensic Science Services 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, and 3A). Item 1: An ignitable liquid residue was detected - a medium miscellaneous product. The ignitable liquid residue contained a medium petroleum distillate (MPD) and xylenes as components. Medium miscellaneous products may originate from brush cleaners, paint thinners, and spray cleaners. Item 2: An ignitable liquid residue was detected- gasoline. Gasoline may originate from any brand or grade of gasoline or gasohol. Item 3: Item 3 was submitted as a comparison sample for Items 1 and 2.
B4HUJM	Item #1: Light aromatic product, examples of which are some paint and varnish removers, some automotive parts cleaners, xylenes, and toluene-based products Medium petroleum distillate, examples of which are some charcoal starters, some paint thinners, and some dry cleaning solvents. It is unknown if the ignitable liquids found in Item #1 represent a single product as manufactured or a subsequent mixture. Item #2: Gasoline
BAWJ49	A light aromatic product and a medium petroleum distillate were each detected in Item 1. Light aromatic products include, but are not limited to, xylenes, some automotive parts cleaners, some solvent cleaners, toluene based products, lacquer thinner, some varnishes and other specialty application solvents and thinners. Medium petroleum distillates include, but are not limited to, some charcoal starters and lamp oils, mineral spirits, wood treatments and preservatives, dry cleaning solvents, fabric water repellents and protectors, automotive parts cleaners, spray lubricants, varnishes, kerosene substitutes, insecticide solvents and numerous other specialty application solvents and thinners. Gasoline was detected in Item 2. No ignitable liquids were detected in Item 3.
BG7TBP	Item 1: the presence of a medium petroleum distillate product was detected in this sample. Item 2: the presence of a gasoline product was detected in this sample.
BH8LP9	A light aromatic product and a medium petroleum distillate were each detected in Item 1. Light aromatic products include, but are not limited to, some automotive parts cleaners, some solvent cleaners, xylenes, toluene based products, lacquer thinner, some varnishes and other specialty application solvents and thinners. Medium petroleum distillates include, but are not limited to, some charcoal starters and lamp oils, mineral spirits, wood treatments and preservatives, dry cleaning solvents, fabric water repellents and protectors, automotive parts cleaners, spray lubricants, varnishes, kerosene substitutes, insecticide solvents and numerous other specialty application solvents and thinners. Gasoline was detected in Item 2. No ignitable liquids were detected in Item 3.
BHZGTL	Item 01 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, paint thinners, and lamp oils. Item 02 was analyzed by gas chromatography/mass spectrometry and determined to contain a gasoline sample in which the concentration of the components has been altered by evaporation. Item 03 was analyzed by gas chromatography/mass spectrometry; however, ignitable liquids could not be detected.

TABLE 4

WebCode	Conclusions
BWNQPQ	Analysis of Item 1 revealed the presence of a medium petroleum distillate (MPD). Examples of this class are charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticides. Analysis of Item 2 revealed the presence of gasoline.
C4ELWL	The following methodologies were used in the examination of this case: visual examination, odor assessment, GC-FID, and GC-MS. Examination of Item 1 revealed the presence of a medium petroleum distillate and an aromatic product. Medium petroleum distillates include some charcoal starters and some paint thinners. Aromatic products include some fuel additives, some automotive parts cleaners, and some specialty cleaning solvents. Examination of Item 2 revealed the presence of residual gasoline. Examination of Item 3 failed to reveal the presence of ignitable liquids.
C4ENHJ	Item 01 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, paint thinners, and lamp oils. Item 02 was analyzed by gas chromatography/mass spectrometry and determined to contain a gasoline sample in which the concentration of the components has been altered by evaporation. Item 03 was analyzed by gas chromatography/mass spectrometry; however, ignitable liquids could not be detected.
C9C2Q3	Item 1.1 was found to contain a medium aromatic product* and a medium petroleum distillate**. A mixture of a medium aromatic product and a medium petroleum distillate may also be the result of a blended product. Examples include, but are not limited to: brush cleaners and gloss removers. *Examples include, but are not limited to: some automotive parts cleaners, specialty cleaning solvents, some insecticides, and some brush cleaners. **Examples include, but are not limited to: some charcoal starters, some paint thinners, and mineral spirits. Item 2.1 was found to contain gasoline. Item 3.1 was used as a control.
CE7WL8	[No Conclusions Reported.]
CH79H8	Item (1) contains Petroleum distillates product. Item (2) contains the subject of gasoline which is considered as petroleum product.
CMURP6	Item 1 was analyzed for the presence of ignitable liquid residues. A Medium Petroleum Distillate was detected. Examples include charcoal starters and varnishes. Item 2 was analyzed for the presence of ignitable liquid residues. Gasoline was detected. Item 3 was a sample submitted for comparison.
CN343Z	Item 1 - A medium (C8-C13) petroleum distillate and a light to medium (C8-C9) aromatic product was identified in the sample. Item 2 - Gasoline was identified in the sample. Item 3 - No ignitable liquids/or ignitable liquid residues were identified in the sample.
CTETNV	METHODS: Items 1, 2, and 3 were extracted using a passive adsorption-elution technique. The Item 1, 2, and 3 extracts were examined using Gas Chromatography-Mass Spectrometry (GC-MS). RESULTS AND INTERPRETATIONS: The Item 1 extract contained a mixture of a light aromatic product and a medium petroleum distillate. The light aromatic product can be found in, but is not limited to, some commercial solvents and liquid strippers. The medium petroleum product can be found in, but is not limited to, some mineral spirits, paint thinners and charcoal starter fluids. The mixture can be found in, but is not limited to, some brush cleaners and commercial solvents. The Item 2 extract contained gasoline. No ignitable liquids were identified in the Item 3 extract.
D64CHQ	A medium petroleum distillate and a light aromatic product were identified in item 1. Medium petroleum distillate products include, but are not limited to, some charcoal starters, paint thinners, and dry cleaning solvents. Light aromatic products include, but are not limited to, xylenes, some paint and varnish removers, and some automotive parts cleaners. Gasoline was identified in item 2. No common ignitable liquid was identified in item 3. Some conditions which 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. The activated charcoal strips prepared by the laboratory for the analysis of items 1, 2,

TABLE 4

WebCode	Conclusions
	and 3 were packaged for return in CTS 22-5436.
DM4F42	A miscellaneous product consisting of a light aromatic product and a medium petroleum distillate was identified in Item 1. Examples of the miscellaneous product include paint removers, paint thinners, and some specialty solvents. Gasoline was identified in Item 2. No ignitable liquids were detected in Item 3. Items 1, 2, and 3 were examined visually and using gas chromatography/mass spectroscopy (GC/MS). Passive adsorption/elution extraction was performed on Items 1, 2, and 3. The activated charcoal strips used to collect volatile organic compounds with the adsorption/elution technique are contained in separate plastic vials, placed in separate, heat sealed fire debris bags, and each was repackaged in the original item.
DNF2PW	A medium petroleum distillate was detected in item 1. Gasoline was detected in item 2. No ignitable liquids were detected in item 3. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene and insecticide solvents/propellants.
DV9YWJ	Other Miscellaneous was determined in item1. In item 2 Gasoline was detected. No ignitable was determined in item 3.
DZDQY6	RESULTS/INTERPRETATIONS: Methods used: Passive adsorption, GCMS. Item #1-An ignitable liquid classified as a medium petroleum distillate (MPD) was detected. Examples of medium petroleum distillates include: some charcoal starters, some paint thinners, and some mineral spirits. Item #2-Gasoline was identified. Item #3-No ignitable liquid was detected.
EA3ZTH	A medium petroleum distillate containing xylenes was identified in Item 1. Examples of this would include certain types of paint brush cleaners and mineral spirits. Gasoline was identified in Item 2. No ignitable liquids were detected in Item 3.
ECJ9Z7	In the Item 1 is detected toluene, ethylbenzene, xylenes, propylciclohexane, C9, methylnonane, C10, butylcyclohexane, methyldecane, C11, pentylcyclohexane, methylundecane, C12, methyldodecane and C13. It is a mixed of MPD (normal alkanes, branched alkanes and cycloalkanes) predominantly in the range of C9-C13 and aromatic compounds (ethylbenzene and xylenes). It is classified as others-miscellaneous. In the Item 2 is detected ethanol, C5, methylpentane, C6, C7, toluene, methylheptane, C8, ethylbenzene, xylenes, C9, methylnonane, C3 alkylbenzenes, C10, indane, C4 alkylbenzenes and C11. It is classified as gasoline.
EGGMR3	A miscellaneous product containing a light aromatic product and a medium petroleum distillate was identified in Item 1. Examples of a commercial product containing a light aromatic product and a medium petroleum distillate include but are not limited to some gloss removers, paint removers and specialty solvents. Gasoline was identified in Item 2. No ignitable liquids were identified in Item 3.
EGHPCZ	Item 1: An ignitable liquid in the medium petroleum distillate class and an ignitable liquid in the light aromatic class were identified. Item 2: An ignitable liquid in the gasoline class was identified. Item 3: No ignitable liquids were identified.
EMJ7JY	Cloth remnant from the painting lab coat (Item 1) was found to contain an ignitable liquid composed mainly of medium to heavy Petroleum Distillate (C8 - C14), C2 alkyl benzenes and other component which can be classified as other miscellaneous. Cloth remnant from a section of the curtain (Item 2) was found to contain an ignitable liquid composed mainly of Gasoline class.
EP98PM	A medium petroleum distillate and a light aromatic product were identified in item 1. Medium petroleum distillates include, but are not limited to, some brands of charcoal starters, paint thinners, and dry cleaning solvents. Light aromatic products include, but are not limited to, xylenes- and/or toluene-based products, some brands of paint removers, varnish removers, and automotive parts cleaners. Gasoline was identified in item 2. No common ignitable liquid was identified in item 3. Some conditions which 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.

TABLE 4

WebCode	Conclusions
EPRZUR	Item 1: White cloth remnant from the painting lab coat. Light aromatic product and medium petroleum distillate identified. Item 2: White cloth remnant from a section of the curtain. Gasoline identified. Item 3: White cloth substrate (comparison blank sample for items 1 and 2). No ignitable liquid identified.
ERWJQE	Exhibit 1 contained an aromatic product and a medium petroleum distillate (MPD), both of which are ignitable liquids. Examples of aromatic products include some paint removers, cleaning solvents, and fuel additives. Examples of MPDs include some paint removers, cleaning solvents, and charcoal starters. It could not be determined if this was a single commercial product, or a mixture of two separate products. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were identified in Exhibit 3
ETDX7L	Item 1 contains medium petroleum distillates (de-aromatized) and Item 2 contains Gasoline
ETWGDE	A miscellaneous class of ignitable liquid residue consisting of a medium petroleum distillate and some aromatic compounds was detected in the nylon bag containing a cloth remnant from the painting lab coat (Item 1). Examples of commercial products containing miscellaneous include some blended products, some specialty products, and turpentine. Gasoline was detected in the nylon bag containing a cloth remnant from a section of the curtain (Item 2). No ignitable liquids were detected in the nylon bag containing the white cloth sample intended as a comparison blank (Item 3). The analysis includes testing for the presence of the following classes of ignitable liquids/residues: gasoline, and light, medium and heavy subclasses of petroleum distillates, isoparaffinic products, naphthenic-paraffinic products, aromatic products, normal alkanes products, oxygenate solvent (not including light volatile organic compounds, such as methanol, ethanol, isopropanol, and acetone), and other-miscellaneous (ASTM E1618).
EU44CT	Item 1.1. A miscellaneous mixture consisting of two petroleum products was identified in the heat-sealed fire debris bag. The petroleum products identified were a) a medium petroleum distillate and b) a light aromatic product. Examples of medium petroleum distillates are some paint thinners, charcoal starters, and mineral spirits. Examples of light aromatics are xylenes, some paint and varnish removers, and some automotive parts cleaners. Item 1.2. Partially evaporated gasoline was identified in the heat-sealed fire debris bag. Item 1.3. No ignitable liquids were identified in the heat-sealed fire debris bag. (Comparison)
EVCCG8	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 light to medium aromatic product (e.g. xylenes, some solvent cleaners, some lacquer thinners, etc.) and a medium petroleum distillate (e.g. some paint thinners, some mineral spirits, some dry cleaning solvents, etc.) were detected. It cannot be determined whether they are two (2) separate products or one (1) manufactured blended product (e.g. brush cleaner, some paint thinners, some dry cleaning spot cleaners, etc.). 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. Gasoline was detected. Item # 3: 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. No ignitable liquid residues were identified. Disposition of Evidence: The unanalyzed portion(s) of the activated charcoal strip(s) has/have been placed in a trace evidence packet. The trace packet will be returned to the submitting agency along with the original item(s) of evidence.
EWZCY3	In the firts sample we have detected a flammable liquid and in the second sample we have detected gasoline.

TABLE 4

WebCode	Conclusions
F2WUCU	Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). A Medium Other-Miscellaneous type product was identified. Examples of this type ignitable liquid include: turpentine products, some blended products and various specialty products. Item 2: The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). Gasoline was identified in the sample. Item 3: 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. Date of receipt of evidence: 08/08/22 Date(s) of performance of the laboratory activity: 8/25/22, 8/26/22, 8/29/22, 9/12/22, 9/22/22 The evidence will be returned to the submitting agency.
FCY3Z8	Analysis by Gas Chromatography/Mass Spectrometry of the white cloth and plastic (Item 1A) detects the presence of a medium petroleum distillate (MPD) and a (light) aromatic product; or a blended product/miscellaneous product that contains a medium petroleum distillate (MPD) and a (light) aromatic product. Examples of MPD's include: some paint thinners, mineral spirits, some charcoal starters, some torch fuels, some lamp oils, some dry cleaning solvents and some solvents for insecticides and polishes. Examples of aromatic products include some solvent cleaners, automotive parts cleaners, xylenes, and some lacquer thinners. Examples of miscellaneous products include: some enamel reducers and some specialty products. Analysis by Gas Chromatography/Mass Spectrometry of the white cloth and plastic (Item 1B) detects the presence of gasoline. Analysis by Gas Chromatography/Mass Spectrometry of the white cloth and plastic (Item 1C) fails to detect the presence of any ignitable liquids. The procedure employed does not detect the presence of light volatiles such as certain alcohols and acetone.
FNRKLY	[No Conclusions Reported.]
FNT86X	Item 1 contained aromatic compounds (ethyl benzene and xylenes) and Medium Petroleum Distillate (predominant homologues of n-alkanes in a Gaussian distribution of peaks from C9 to C12). 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate (TXIB) compound was also present. Analyses results show that the cloth remnant from the painting lab coat (Item 1) contained traces of medium ignitable blended product (petroleum distillate, e.g. mineral spirit, aromatic product and TXIB). Examples of this blended product include some paint product/solvent, paint/varnish remover, specialty cleaning solvent... Cloth remnant from a section of the curtain (Item 2) contained compounds, typical for Gasoline (i.e. C1-C4 alkyl benzenes, alkanes in the range of the (C6-C9), including isooctane (octane enhancer), indanes...) and Medium Petroleum Distillate (predominant homologues of n-alkanes in a Gaussian distribution of peaks from C9 to C13). Item 2 most likely contained traces of mixture of Gasoline and MPD or Gasoline enriched with MPD. The ignitable liquid detected on the curtain could be used as an accelerant.
FTJMRK	Item 1: Light aromatic product, examples of which are some paint and varnish removes, some automotive parts cleaners, and xylenes. Medium petroleum distillate, examples of which are some charcoal starters, some paint thinners, and some dry cleaning solvents. It is unknown if the ignitable liquids found in Item 1 represent a single product as manufactured or a subsequent mixture. Item 2: Gasoline. Item 3: No ignitable liquids found.
FYZZTJ	Sample 1 contained a medium petroleum distillate (MPD.) This class of ignitable liquid can be found in some paint thinners, mineral spirits, dry cleaning solvents, charcoal starters, spray lubricants, lamp oils, deck sealers, varnishes, kerosene or other related products. Sample 2 contained gasoline residue. The exemplar sample 3 did not contain measurable levels of ignitable liquids.
GDPGYG	Findings: Item 1: Medium petroleum distillate, examples of which are some charcoal starters, some paint thinners, and some dry cleaning solvents. Light aromatic product, examples of which are some paint and varnish removers, some automotive parts cleaners, xylenes, and toluene-based products. Item 2: Gasoline. Item 3: No ignitable liquids were found.
GFBJLF	The following methodologies were used in the examination of this case: visual examination, odor assessment, GC-FID and GC-MS. Examination of Item #1 revealed the presence of a mixture of a

TABLE 4

WebCode	Conclusions
	medium petroleum distillate and an aromatic product (ethylbenzene and xylenes). Medium petroleum distillates include some charcoal starters and some paint thinners. Aromatic products include some fuel additives, some automotive parts cleaners, and some specialty cleaning solvents. Examination of Item #2 revealed the presence of residual gasoline. Examination of Item #3 failed to reveal the presence of ignitable liquids.
GKRJ73	Exhibit 1 was analyzed and determined to contain a medium miscellaneous product. Examples of medium miscellaneous products include, but are not limited to, some turpentine products, mineral spirits, fuel additives, spray lubricants, brush cleaners, paint thinners, citrus cleaners, and charcoal starters. Exhibit 2 was analyzed and determined to contain gasoline. This conclusion is based upon gas chromatography-mass spectrometry (GC-MS) analysis of concentrated headspace vapors from each sample.
GMUFVW	A miscellaneous product consisting of a light aromatic product and a medium petroleum distillate was identified in Item 1. Examples of medium miscellaneous products include, but are not limited to, some paint removers, some paint thinners, and some mineral spirits. Gasoline was identified in Item 2. No ignitable liquid residues were detected in Item 3.
GRQ9M7	Item 1: presence of two flammable petroleum products: a medium petroleum distillate from C9 to C12 (e.g. charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, ...) and an aromatic product (e.g. xylenes, solvent cleaners, automotive parts cleaners, specialty cleaning solvents, ...). It can be a single product blend or two different products. Thus, according to ASTM E1618-19, this would be defined as "Miscellaneous - Others". Item 2: presence of two flammable petroleum products: a medium petroleum distillate from C9 to C12 (e.g. charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, ...) and a gazoline. Thus, according to ASTM E1618-19, this would be defined as "Miscellaneous - Others".
GVRAZ9	In my professional opinion: (a) Patterns of ignitable liquid was identified in Item 1 and was found to contain a medium range Petroleum Distillate product. According to ASTM E1618-19 Ignitable Liquid Classification Scheme, examples of these medium Petroleum Distillate products are include but not limited to charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene and insecticides. (b) Patterns of ignitable liquid was identified in Item 2 and was found to contain a gasoline product.
GWJEYN	A light aromatic product and a medium petroleum distillate were identified in Lab Item 1. Gasoline was identified in Lab Item 2. No ignitable liquids were identified in Lab Item 3. Negative results do not preclude the possibility that ignitable liquids were present at the fire scene. Samples of recovered materials from this case have been preserved with the evidence. Analysis method: Carbon trap followed by Gas Chromatography/Mass Spectrometry.
GXFQZH	GC/MS analysis of Item 001-01 disclosed the presence of a light aromatic and a medium petroleum distillate. It should be noted that it cannot be determined if this is a mixture of two separate products or one discreet miscellaneous product. Examples of a light aromatic include, but are not limited to, xylenes and some paint and varnish removers. Examples of a medium petroleum distillate include, but are not limited to, some paint thinners. Examples of some miscellaneous products include, but are not limited to, some brush cleaners and gloss removers. GC/MS analysis of Item 001-02 disclosed the presence of gasoline. GC/MS analysis of Item 001-03 (Comparison Sample) failed to disclose the presence of an ignitable liquid.
H3VFEB	A residue in the medium range of Miscellaneous Class of Ignitable Liquids was detected in the plastic bag containing a piece terry cloth from the painting lab coat (Item 1). Examples of similar ignitable liquids include brush cleaners, gloss removers (deglossers), and paint removers. Gasoline was detected in the plastic bag containing a piece terry cloth from the section of the curtain (Item 2). The comparison blank (Item 3) showed there was no volatile contribution from the terry cloth substrate. These samples (Items 1 – 3) were extracted by adsorption/elution and analyzed by gas chromatography/mass spectrometry. The analysis includes testing for the presence of the following classes of ignitable liquid/residues: gasoline, light, medium, and heavy subclasses of petroleum

TABLE 4

WebCode	Conclusions
	distillates, isoparaffinic products, naphthenic-paraffinic products, aromatic products, normal alkanes products, oxygenate solvents (not including light volatile organic compounds, such as methanol, ethanol, isopropanol, and acetone) and other miscellaneous (ASTM E1618).
H4LQ4K	Item #1 contained residues consistent with a miscellaneous class of ignitable liquids. Examples of the miscellaneous class of ignitable liquids include: turpentine products, some blended products, some specialty products and some single component products. Item #2 contained residues consistent with the gasoline class of ignitable liquids. This class of ignitable liquids includes all brands and grades of automotive gasoline. No ignitable liquid residues were detected in Item #3.
HARD3E	Examination and analysis performed on item 1 revealed the presence of paint thinner (an ignitable liquid). Examination and analysis performed on item 2 revealed the presence of a medium petroleum distillate (an ignitable liquid). Examination and analysis performed on item 3 did not reveal the presence of ignitable liquids.
HFF44H	A medium petroleum distillate was detected on the cloth remnant from the painting lab coat (item 1). Gasoline was detected on the cloth remnant from a section of the curtain (item 2). No ignitable liquid residues were detected on the comparison blank cloth substrate (item 3).
HHLHVF	Residues of a medium miscellaneous ignitable liquid product were identified on Item 1 when compared to Item 3. Examples of such products include, but are not limited to, some brush cleaners, paint thinners, and mineral spirits. Residues of gasoline, an ignitable liquid, were identified on Item 2 when compared to Item 3.
HNNMEZ	Item 1, a piece of cloth reportedly from painting lab coat: A medium petroleum distillate product was identified. Examples of medium petroleum distillate products are some charcoal starters, paint thinners, and degreasing solvents. Item 2, a piece of cloth reportedly from a curtain: Gasoline was identified. Item 3, a piece of cloth reportedly a comparison sample: No ignitable liquids detected.
HT6WYH	Residues of a medium miscellaneous ignitable liquid product were identified on Item 1 when compared to Item 3. Examples of such products include, but are not limited to, some brush cleaners, paint thinners, and mineral spirits. Residues of gasoline, an ignitable liquid, were identified on Item 2 when compared to Item 3.
HUPQFR	A medium petroleum distillate and an aromatic product were detected in Item #1. Gasoline was detected in Item #2. No ignitable liquids were detected in Item #3.
J7JFZY	Item 1.1 contained a medium petroleum distillate (C9-12). Examples of which include charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene and insecticides. Item 1.2 contained gasoline. No ignitable liquids were detected in Item 1.3.
J9EZZ3	The sample was analyzed by gas chromatography - mass spectrometry for presence of ignitable liquids. Item #1: Instrumental analysis detected high levels of C2-alkylbenzenes (ethyl-benzene and xylenes) and hydrocarbon fraction between C9 and C12 without aromatic coumponds. The ignitable liquid fall into the class "other-miscellaneous". The sample may correspond to a sticker removal product. Item #2:Instrumental analysis detected high levels of isoalkanes and alkylbenzenes with ethanol, so the ignitable liquid is identifed as gasoline Item #3: No ignitable liquids were detected in the sample.
JADJFJ	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, charcoal starters, paint thinners and mineral spirits. Gasoline was identified in item 2. No ignitable liquid residues were identified in item 3.
JKGUT2	Item 1: medium petrolleum destillate Examples of known commercial uses of these ignitable liquids include, but are not limited: charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, insectides (solvents). Item 2: gasoline (weathered) Item 3: no ignitable liquid If there is suspicion that an ignitable

TABLE 4

WebCode	Conclusions
	liquid found might be indigenous to the substrate, the analysis of an appropriate comparison sample can aid in determining whether an ignitable liquid is foreign to the substrate. The absence of another ignitable liquid residue does not preclude the possibility that the ignitable liquid was present at the fire scene. Ignitable liquids are volatile compounds that could have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials.
JLE6P4	Item #1: The presence of a Medium Petroleum Distillate and a Light Aromatic Product were detected in this sample. Item #2: The presence of Gasoline was detected in this sample.
JLXNUB	A miscellaneous product was identified in Test No. 22-5436 Item 1-1. Some examples of a miscellaneous product would include some brands of brush cleaners, specialty solvents or a combination of products. A gasoline residue was identified in Test No. 22-5436 Item 1-2. No ignitable liquids were identified in Test No. 22-5436 Item 1-3.
JPE7YY	Item 1: The white cloth contains a medium miscellaneous ignitable liquid residue. Item 2: The white cloth contains a gasoline ignitable liquid residue. Item 3: The white cloth contains no detectable ignitable liquid residue.
JRZXZ4	Item #1- The presence of a Medium Petroleum Distillate and a Light Aromatic Product were detected in this sample. Item #2- The presence of Gasoline was detected in this sample.
JUULW4	Medium Petroleum Distillates in the range of (C9-C13) was identidied in the Item 1. Exemple: some mineral spirits, Paint Thinners and some Charcoal starters...etc.Gasoline was identidied in the Item 2. No ignitable liquid was identified in Item 3.
JWQE9M	Item 1 was found to contain a medium petroleum distillate. Examples include but are not limited to some charcoal starters and some wood finishes. Item 2 was found to contain a miscellaneous petroleum product that cannot be identified at this time. No ignitable liquids were identified in item 3.
JXNP4Q	[No Conclusions Reported.]
JZGBGD	Item 1 was found to contain compounds classified as miscellaneous according to ASTM E-1618-19. Item 2 was found to contain compounds classified as gasoline class according to ASTM E-1618-19. Item 3 no ignitable liquid residue were identified (not identified).
K23GUJ	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. Gasoline was identified in item 2. No ignitable liquid residues were identified in item 3.
K4AZRJ	Within the limits of the applied methodology and after comparison with the analysis result of the item 3 intended as a comparison blank: a Medium Petroleum Distillate was detected in item 1. This class of ignitable products includes in particular some charcoal starters, paint thinners and dry cleaning solvents; Gasoline was detected in item 2.
K64NAE	Examination of Item 1 (Lab Number 22F0197001): The item comprised a heat-sealed nylon bag enclosing a second heat-sealed nylon bag containing white fabric. Medium petroleum distillate residues were detected from the item. Examination of Item 2 (Lab Number 22F0197002): The item comprised a heat-sealed nylon bag enclosing a second heat-sealed nylon bag containing white fabric. Partially evaporated petrol (gasoline) residues were detected from the item. Examination of Item 3 (Lab Number 22F0197003): The item comprised a heat-sealed nylon bag enclosing a second heat-sealed nylon bag containing white fabric. No ignitable liquid residues were detected from the item.
K6LRRM	Item 1 was found to contain a volatile mixture identified as a medium miscellaneous product composed of a medium petroleum distillate and medium aromatic product. It cannot be determined if these are two distinct products or whether this is a commercial blend. Examples of medium petroleum distillates include some charcoal lighters, some paint thinners, and some organic solvents. Examples of medium aromatic products include some organic solvents. Item 2 was found to contain a volatile

TABLE 4

WebCode	Conclusions
	mixture identified as gasoline. No common ignitable liquid residues were detected in the comparison sample (Item 3).
KH77VM	Wording of conclusions in your report Items 1, 2 and 3 were examined for the presence of hydrocarbon fire accelerants e.g. petrol, white spirit, paraffin oil, diesel oil. Item 1 was found to contain partly evaporated medium petroleum distillate vapour and partly evaporated light aromatic product vapour. Examples of medium petroleum distillates include white spirits, some paint thinners and some dry cleaning products. Examples of light aromatic products include some paint and varnish removers and some degreasers. We cannot exclude the possibility that both the medium petroleum distillate and the light aromatic product originated from the same source. Item 2 was found to contain partly evaporated petrol vapour. Item 2 was also found to contain a hydrocarbon material similar to partly evaporated medium to heavy petroleum distillate vapour. The results did not fully satisfy the criteria which would allow the material to be classified unambiguously as partly evaporated medium to heavy petroleum distillate vapour. We cannot exclude the possibility that the hydrocarbon material similar to medium to heavy petroleum distillate originated from the matrix. No such hydrocarbon fire accelerants were detected in item 3.
KM3X2X	Laboratory analysis on the item 1 have detected a presence of a mixture of a medium petroleum distillate and an aromatic product. This kind of mixture could be find in some paint thinners or mineral oil. Laboratory analysis on the item 2 have detected a presence of gasoline. Laboratory analysis on the item 3 have not detected a presence of any flammable or combustible liquid nor a water soluble solvent.
KQPB7V	Item 1 - An ignitable liquid was detected. This liquid was identified as a medium petroleum distillate. Some examples of medium petroleum distillates commonly produced as commercial products include paint thinners or paint cleanup solvents, mineral spirits, and charcoal lighter fluids. The sample was prepared with the passive heated headspace technique, and analyzed by gas chromatography mass spectrometry. Item 1.2 - An ignitable liquid was detected. This liquid was identified as gasoline. The sample was prepared with the passive heated headspace technique, and analyzed by gas chromatography mass spectrometry. Item 1.3 - No ignitable liquids were detected. The sample was prepared with the passive heated headspace technique, and analyzed by gas chromatography mass spectrometry. Vials containing charcoal strips of vapor extracts, from each item, were sealed in with the evidence.
KYTRB7	Exhibit 1 contained a light aromatic product and a medium petroleum distillate (MPD), both of which are ignitable liquids. Examples of light aromatic products include xylenes, some paint and varnish removers and some automotive parts cleaners. Examples of MPDs include some mineral spirits, some charcoal starters, and some paint thinners. Commercial products such as some fuel additives, some deglossers and some brush cleaners, may contain such a mixture. It could not be determined whether Exhibit 1 contained a single commercial product or a mixture of individual products. Gasoline, which is an ignitable liquid, was identified in Exhibit 2. No ignitable liquids were identified in Exhibit 3.
KZ77YF	According to ASTM E1618-06, Ignitable Liquid Classification Scheme (Table 1), Item1, 2 and 3 were analyzed by gas chromatograph/mass spectrometer with using sold-phase microextraction and solvent extraction recovery techniques for cross-validation. Petroleum Distillates with Medium and Gasoline was identified in each Item 1 and 2.
L39LJQ	On analysis, i found both Item 1 and Item 2 to bear traces of Petroleum Distillates (Including De-Aromatized) both Subclass Medium. I did not found any ignitable liquid trace on Item 3.
L3B93Q	1. A light aromatic product and a de-aromatized medium petroleum distillate were detected in Item 1. Uses of light aromatic products include, but are not limited to, some solvent cleaners, some lacquer and epoxy thinners, and xylenes-based products. Uses of de-aromatized medium petroleum distillates include, but are not limited to, some odourless paint thinners, some odourless charcoal starters and some odourless torch fuels. It is not known whether the light aromatic product and de-aromatized medium petroleum distillate detected in Item 1 originate from a single, blended product or from two separate sources; however, the two are found blended together in some aromatic paint thinners and

TABLE 4

WebCode	Conclusions
	some glaze and seal maintenance care products for concrete, masonry, tile, grout and indoor/outdoor stone. Light aromatic products and de-aromatized medium petroleum distillates are ignitable liquids and could act as fire accelerants. 2. Gasoline was detected in Item 2. Gasoline is an ignitable liquid and could act as a fire accelerant. 3. No ignitable liquid, or its residue, was detected in Item 3.
L6CCUD	GCMS analysis of Item 001-01 disclosed the presence of a light aromatic and a medium petroleum distillate. It cannot be determined if this is a mixture of two separate products or one miscellaneous product. Examples of a light aromatic product include, but are not limited to, xylenes and some paint and varnish removers. Examples of a medium petroleum distillate include, but are not limited to, some paint thinners. Examples of some miscellaneous products include, but are not limited to, some brush cleaners and gloss removers. GCMS analysis of Item 001-02 disclosed the presence of Gasoline.
LALZA3	tem 1 was subjected to headspace technique followed by Gas Chromatography/Mass Spectrometric (GCMS) analysis shows presence of ignitable liquid residue of Petroleum Distillate 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 Petroleum Distillate class and medium subclass.
LATF6N	Item 1 - The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). A Medium Other-Miscellaneous type product was identified. Examples of this type ignitable liquid include: some blended products and various specialty products. Item 2 - The submitted sample was analyzed using a passive headspace technique and gas chromatography-mass spectrometry (GC-MS). Gasoline was identified in the sample. Item 3 - 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.
LDUM6T	[No Conclusions Reported.]
LFHUUV	ITEMS: 1 a sealed cardboard box identified as "2022 CTS Forensic Testing Program Test No. 22-5436: IGNITABLE LIQUID IDENTIFICATION Sample Pack: IL" containing: 1-1 a heat-sealed nylon bag containing unburned white cloth material identified as "Test No. 22-5436 Item 1" 1-2 a heat-sealed nylon bag containing unburned white cloth material identified as "Test No. 22-5436 Item 2" 1-3 a heat-sealed nylon bag containing unburned white cloth material identified as "Test No. 22-5436 Item 3" RESULTS: Gas chromatography and mass spectrometry were used to analyze the samples in items #1-1, #1-2, and #1-3. A mid-range petroleum distillate was present in item #1-1. Common products containing a mid-range petroleum distillate are: charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticides. Gasoline was present in item #1-2. No ignitable liquids were identified in item #1-3.
LGNLFG	[No Conclusions Reported.]
LP7V4E	Item 1: Medium petroleum distillate, examples of which are some charcoal starters, some paint thinners, and some dry cleaning solvents. Aromatic product, examples of which are xylenes and toluene-based products. Item 2: Gasoline.
LPKEU3	Item 1: This item consists of a white fabric square. This item was found to contain a mixture of a light/medium aromatic solvent and a medium petroleum distillate. This mixture may be a commercially available product. Item 2: This item consists of a white fabric square. This item was found to contain gasoline. Item 3: This item consists of a white fabric square. No ignitable liquids were identified in this item.
LQHPP7	Exhibit 1 contained a light aromatic product and a medium petroleum distillate (MPD), both of which are ignitable liquids. Examples of light aromatic products include some automotive parts cleaners, some paint/varnish removers and xylenes. Examples of MPDs include some charcoal starters, some paint thinners and some mineral spirits. Some brush cleaners and some dry-cleaning solvents contain

TABLE 4

WebCode	Conclusions
	a blend of a light aromatic product and a medium petroleum distillate. It could not be determined whether Exhibit 1 contained a single commercial product or a mixture of two individual products. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were identified in Exhibit 3.
LTAJ3Z	A light aromatic product and a medium petroleum distillate were each detected in Item 1. Light aromatic products include, but are not limited to, some automotive parts cleaners, some solvent cleaners, xylenes, toluene based products, lacquer thinner, some varnishes and other specialty application solvents and thinners. Medium petroleum distillates include, but are not limited to, some charcoal starters and lamp oils, mineral spirits, wood treatments and preservatives, dry cleaning solvents, fabric water repellents and protectors, automotive parts cleaners, spray lubricants, varnishes, kerosene substitutes, insecticide solvents and numerous other specialty application solvents and thinners. Commercially available products containing this blend of products include, but are not limited to, brush cleaners and thinners and other specialty application products. Gasoline was detected in Item 2. No ignitable liquids were detected in Item 3.
LTAJZE	Item 1: GC-MS analysis identified residues of a medium-range miscellaneous ignitable liquid. Item 2: GC-MS analysis identified residues of petrol (gasoline). Item 3: GC-MS analysis did not identify any ignitable liquid residues.
LVHVJ2	1. Medium petroleum distllate (MPD) was identified in item 1. Examples of medium petroleum distillates include but not limited to some paint thinners, varnishes and kerosine oil. 2. Gasoline was identified in item 2. 3. No ignitable liquid residue was identified in item 3.
LW9XCK	Item 1A contains a mixture of an ignitable liquid in the medium aromatic class and a liquid in the medium petroleum distillate class. Examples of some products in the medium aromatic class include some automotive parts cleaners, some specialty cleaning solvents and some fuel additives. Examples of products in the medium petroleum distillate class include some charcoal starters, paint thinners, lamp oils and torch fuels. Item 1B contains an ignitable liquid in the gasoline class. Item 1C was analyzed and 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.
M3NZTL	Item 1: Medium Petroleum Distillate: Examples of medium petroleum distillates 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. Item 2: Gasoline: Examples of a gasoline include all grades and brands of automobile gasoline, including gasohol and E85. Item 3: Negative: 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.
M9VJZR	METHODS: Items 1.1, 2.1, and 3.1 were analyzed with a gas chromatograph-flame ionization detector (GC-FID) and a gas chromatograph-mass spectrometer (GC-MS) for the identification of ignitable liquids. RESULTS AND CONCLUSIONS: Item 1.1 was found to contain a medium aromatic product* and a medium petroleum distillate**. A mixture of a medium aromatic product and a medium petroleum distillate may also be the result of a blended product. Examples may include, but are not limited to, gloss removers and brush cleaners. *Examples include, but are not limited to: some automotive parts cleaners, specialty cleaning solvents, and some brush cleaners. **Examples include, but are not limited to: some charcoal starters, some paint thinners, and mineral spirits. Item 2.1 was found to contain gasoline. Item 3.1 was used as a control.
MA6J9E	Items 1 and 2 were identified as petroleum distillates(medium) and gasoline, respectively. Item 3, which was submitted as a comparison (control) showed no traces of any volatile organic compound, i.e. ignitable liquids. Therefore, it could be concluded that the cloth remnants of Item 1 and 3 themselves did not interfere with the results.
MBXRXA	The following methodologies were used in the examination of this case: visual examination, odor

TABLE 4

WebCode	Conclusions
	assessment, GC-FID and GC-MS. Examination of Item #1 revealed the presence of an aromatic product and a medium petroleum distillate. Aromatic products include some fuel additives, some automotive parts cleaners, and some specialty cleaning solvents. Medium petroleum distillates include some charcoal starters and some paint thinners. Examination of Item #2 revealed the presence of residual gasoline. Examination of Item #3 failed to reveal the presence of ignitable liquids.
MR4Q7D	Item 1: A mixture containing a light aromatic product and a medium petroleum distillate was found. This can be from a blended product or from a physical mixture. Examples of light aromatic products include, but are not limited to, solvent cleaners, lacquer thinners, paint and varnish removers, automotive parts cleaners, xylenes, and toluene-based products. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticides. Item 2: Gasoline found. This includes any brand or octane, as well as any alcohol-blended gasoline. Item 3: No ignitable liquids found.
MUVPKC	Opinions/Interpretations: Item 1 was determined to contain the following: - Light Aromatic Product, an ignitable liquid, examples of which include automotive parts cleaners, solvent cleaners, xylenes, toluene-based products, and lacquer thinners. - Medium Petroleum Distillate, an ignitable liquid, examples of which include charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, lamp oils, and insecticides. It could not be determined if Item 1 contained multiple individual commercial products or a single commercial product. Item 2 was determined to contain the following: - Gasoline, an ignitable liquid, examples of which include all brands and grades of automotive gasoline, including gasohol and E85. Item 3 was submitted as a comparative sample. This sample was analyzed and the results were used in evaluating possible matrix influences on Items 1 and 2. For comparison purposes only.
MY9MUK	In sample 1 were detected aliphatic hydrocarbons, which might be from medium petroleum distillate type products classified as ignitable liquids. Commercial products are for example Special cleaning products, mineral spirits, paint thinners and solvents. In sample 2 were detected aromatic hydrocarbons, which are from gasoline and are classified as an ignitable liquid. In sample 2 was also detected isoparaffinic hydrocarbons, which might come from the same gasoline product or another commercial product for example alkylate gasoline. Reference sample 3 was taken into account when making the interpretation.
N2MUKQ	Item 1 contains a mixture of a medium petroleum distillate and a light aromatic solvent. Item 2 contains gasoline.
NACY2X	Item 1 and item 2 were extracted by passive Solid phase microextraction (SPME) method with heating. The headspace above the sample adrorbed on the polymer-coated fused fiber was then analyzed by gas chromatography-mass spectrometry. The analysis of item 1 revealed the presence of a Medium Petroleum Distillate (MPD) (example: Majic Polyurethane Enamel). The analysis of item 2 revealed the presence of a gasoline. We had also used other technique, the static or direct headspace, this method consists of extracting a quantity 1 ml of the vapor phase directly with a gas syringe, and analyzed by GC-MS.
NBFXWZ	Item 1 would be similar to a distillate (C9-C12), however, it could be a miscellaneous product that has partly evaporated, as di-substitute benzenes also present. Item 2 would be similar to partly evaporated gasoline. As the incident occurred in an art studio, legitimate products, such as solvents and waxes, would need to be sampled/submitted to possibly eliminate as possible sources of ignitable liquids found in items 1 & 2.
NJWEJ9	Item 1: A medium petroleum distillate was detected on Item 1, probably a mineral spirits or paint thinner. Item 2: Gasoline was detected on Item 2. Item 3: No ignitable and/or combustible liquid was detected on the material. This may mean there was never any present, or that any liquid had evaporated below the detectable limit.
NQH4NA	Residues of a medium miscellaneous ignitable liquid product were identified on Item 1 when

TABLE 4

WebCode	Conclusions
	compared to Item 3. Examples of such products include, but are not limited to, some brush cleaners, paint thinners, and mineral spirits. Residues of gasoline, an ignitable liquid, were identified on Item 2 when compared to Item 3.
NR4B98	The following methodologies were used in the examination of this case: visual examination, odor assessment, GC-FID and GC-MS. Examination of Item 1 revealed the presence of a medium petroleum distillate and an aromatic product. Medium petroleum distillates include some charcoal starters and some paint thinners and aromatic products include some fuel additives, some automotive parts cleaners, and some specialty cleaning solvents. Examination of Item 2 revealed the presence of residual gasoline. Examination of Item 3 failed to reveal the presence of ignitable liquids.
NWK98V	1. Volatile residues from Exhibits 1 (cloth remnant from the painting lab coat), 2 (cloth remnant from a section of the curtain), and 3 (cloth substrate intended as a comparison blank) were collected using passive headspace concentration techniques and headspace sampling techniques and analyzed using gas chromatography-mass spectrometry for the presence of ignitable liquid residues. 2. A medium petroleum distillate was identified in the concentrated headspace vapors of Exhibit 1. Ignitable liquids belonging to this class are commercially available as some paint thinners, some charcoal starters, and some dry cleaning solvents. 3. Gasoline was identified in the concentrated headspace vapors of Exhibit 2. 4. No ignitable liquid residue classification was identified in Exhibit 3.
P27NBT	Item 1: An ignitable liquid was identified. The ignitable liquid is a Medium Petroleum Distillate. Examples of such products include many charcoal lighter fluids. Item 2: An ignitable liquid was identified. The ignitable liquid was identified as Gasoline.
P63LBJ	Sample 1 and sample 2 both tested "positive" for the presence of an ignitable liquid. Based on the comparison to reference materials, this analysis satisfied the requirements to indicate the presence of a Medium Petroleum Distillate (MPD) in sample 1 and a Gasoline product in sample 2.
P7DGXB	Item 1: A mixture containing a light aromatic product and a medium petroleum distillate was found. This can be from a blended product or from a physical mixture. Examples of light aromatic products include, but are not limited to, solvent cleaners, lacquer thinners, paint and varnish removers, automotive parts cleaners, xylenes, and toluene-based products. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticides. Item 2: Gasoline found. This includes any brand or octane, as well as any alcohol-blended gasoline. Item 3: No ignitable liquids found.
P7F9TX	On analysis : i) A medium petroleum distillates (including de-aromatized) product was detected on Item 1 and Item 2. ii) No ignitable liquid was detected on Item 3
PA3KUP	Item 1 - a medium petroleum distillate and a light aromatic product were identified. Medium petroleum distillates are ignitable liquids and include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. Light aromatic products are ignitable liquids and include, but are not limited to, some paint and varnish removers, some automotive parts cleaners, xylenes, and toluene-based products. The medium petroleum distillate and the light aromatic product identified in item 1 may or may not share the same origin. Item 2 - gasoline was identified. Item 3 - no ignitable liquid was identified.
PAGAVF	The analysis completed in this case utilized the gas chromatograph/mass spectrometer.The results apply only to the sample(s) received. The evidence, including the sample used in analysis, will be returned to the submitting agency. Item 1A contains a mixture of an ignitable liquid in the medium aromatic class and a liquid in the medium petroleum distillate class. Examples of products in the medium aromatic class include automotive parts cleaners, specialty cleaning solvents, insecticides and brush cleaners. Examples of products in the medium petroleum distillate class include some charcoal starters, paint thinners, lamp oils, and torch fuels. Item 1B contains an ignitable liquid in the gasoline class. Item 1C was analyzed and 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

TABLE 4

WebCode	Conclusions
	does not preclude its presence during a fire.
PECNWK	Instrumental analysis of exhibit #1 revealed a mixture of light aromatic product (ethylbenzene and xylenes) and medium petroleum distillate. Instrumental analysis of exhibit #2 revealed gasoline. No ignitable liquid was detected in exhibit #3.
PJJCC8	1-1 White cloth - Light aromatic product, examples of which are some paint and varnish removers, some automotive parts cleaners, xylenes, and toluene-based products. Medium petroleum distillate, examples of which are some charcoal starters, some paint thinners, and some dry cleaning solvents. 1-2 White cloth - Gasoline. 1-3 White cloth - No ignitable liquids were found.
PQ6A3F	A light aromatic product and a medium petroleum distillate were identified in Item 1. Gasoline was identified in Item 2. No ignitable liquids were identified in Item 3.
PTCK4P	Item 1: A miscellaneous ignitable liquid was detected. Examples: Specialty mixtures. Item 2: Gasoline was detected. Examples: All brands and grades of automotive gasoline and gasohol.
PULR4W	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 miscellaneous ignitable liquid. Examples of this class of ignitable liquid could include (but are not limited to): turpentine products, mineral spirits, fuel additives, spray lubricants, brush cleaners, paint thinners, citrus cleaners and charcoal starters. Item 2 was subjected to adsorption – elution extraction followed by gas chromatographic/mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of gasoline. Examples could include (but are not limited to): all brands, including gasohol and E85 Item 3 was subjected to adsorption – elution extraction followed by gas chromatographic/mass spectrometric (GC/MS) analysis. No ignitable liquids were identified.
PUNG9U	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. Gasoline was detected. Item # 3: 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.
PYFNQ3	Exhibit 1 contained a medium petroleum distillate (MPD) and a light aromatic product, both of which are ignitable liquids. Examples of MPDs include some paint thinners, dry cleaning solvents and mineral spirits. Examples of light aromatic products include some paint/varnish removers, some automotive parts cleaners and xylenes. There are some commercial products, such as some brands of paint thinners, which contain such a mixture. It could not be determined whether the exhibit contained a single commercial product or a mixture of two individual products. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were identified in Exhibit 3.
Q3YW2N	A mixture containing a light aromatic product and a medium petroleum distillate was identified in Item 1. Examples of a light aromatic product are some automotive parts cleaners, some solvent cleaners and some lacquer thinners. Examples of a medium petroleum distillate are some paint thinners, some charcoal starters and some automotive parts cleaners. The ignitable liquid present may result from two sources or may be a commercially produced product. Gasoline was identified in Item 2. No ignitable liquids were identified in Item 3 (comparison sample).
QFJHX3	A miscellaneous product was identified in Item 1-1 (Item 1-From Painting Lab Coat). Some examples of a miscellaneous product would include some brands of gloss removers, brush cleaners, and specialty products. A gasoline residue was identified in Item 1-2 (Item 2-From a Section of the

TABLE 4

WebCode	Conclusions
	Curtain). No ignitable liquids were identified in Item 1-3 (Comparison).
QFL93Z	Exhibit 1 contained a light aromatic product and a medium petroleum distillate (MPD). A light aromatic product and MPDs are ignitable liquids. Examples of a light aromatic product include some automotive parts cleaners, xylenes, and some toluene-based products. Examples of MPDs include some charcoal starters, some paint thinners and some mineral spirits. It could not be determined whether Exhibit 1 contained a single commercial product or a mixture of two individual products. Exhibit 2 contained gasoline, which is an ignitable liquid. Exhibit 3 was analyzed for the presence of ignitable liquids with negative results.
QHBML9	The cloth remnant from the painting lab coat (item 1) consisted of a swatch of white cloth. A medium petroleum distillate (similar to mineral turpentine) was detected in this item. The cloth remnant from the section of curtain (item 2) consisted of a swatch of white cloth. Petrol was detected in this item. The cloth substrate for comparison (item 3) consisted of a swatch of white cloth. No accelerant was detected in this item.
QMY7QJ	1. The presence of a medium petroleum distillate was detected in sample 1. 2. The presence of gasoline was detected in sample 2. 3. No ignitable liquids were detected in sample 3.
QTXDTR	Item 1 was found to contain a medium petroleum distillate fraction of carbon range C9 to C12. Item 2 was found to contain gasoline. No Ignitable liquids were detected in Item 3.
QWRCPC	A mixture of a light aromatic and a medium petroleum distillate was identified in item 1. Light aromatic products include, but are not limited to, xylenes and/or toluene-based products, some paint and varnish removers and some automotive parts cleaners. Medium petroleum distillate products include, but are not limited to, some charcoal starters, paint thinners and dry cleaning solvents. Gasoline was identified in item 2. No common ignitable liquid was identified in item 3. Some conditions which 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. The activated charcoal strips prepared by the laboratory for the analysis of items 1, 2 and 3 were packaged for return in items 1, 2 and 3, respectively.
QZRJ9N	The volatile contents of Items 1, 2, and 3 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). Medium petroleum distillates include, but are not limited to, some paint thinners, mineral spirits, and charcoal starters. A light aromatic product was also identified in Item 1 (Identification). Examples of light aromatic products include, but are not limited to, solvent cleaners, xylenes, and lacquer thinners. Item 1 could have been made by two separate products, but also could have been made by one product that includes light aromatic and medium petroleum distillate properties. Examples of products that include aromatic and petroleum distillate properties, include, but are not limited to some cleaning solvents, some automotive part cleaners, and some insecticides. Gasoline was identified in Item 2 (Identification). No ignitable liquid residues were detected in Item 3 (Not Detected).
RA9UVK	1. A medium miscellaneous product based on a mixture of ethylbenzene (flash point 15C), xylenes (flash point 27 to 46C) and a medium petroleum distillate was detected in Item 1. It could not be determined whether the mixture was manufactured as a single product or resulted from a combination of two or more separate products. Medium miscellaneous products are ignitable liquids and could act as fire accelerants. Medium miscellaneous products are used in the manufacture of, but are not limited to, some automotive parts cleaners, some paint brush cleaners and some surface preparation agents. 2. Gasoline was detected in Item 2. Gasoline is an ignitable liquid and could act as a fire accelerant. 3. No ignitable liquid, or its residue, was detected in Item 3
RB3KYE	Item 1 extract contains a Medium Miscellaneous Product. Examples of a Medium Miscellaneous Products include but are not limited to some brush cleaners, some paint thinners, and some blended products. Item 2 extract contains gasoline. Gasoline contains all brands and grades of automotive

TABLE 4

WebCode	Conclusions
	gasoline including gasohol and E85. Item 3 extract: No ignitable liquids were identified. Item 3 was used as a comparison sample for Items 1 and 2. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene.
RB78CL	Item 1 found to contain a Medium Petroleum Distillate. Item 2 found to contain a Miscellaneous.
RJLP88	Item 1. Medium petroleum distillate was identified. Examples of commercial products of this classification include, but are not restricted to: some charcoal starters, some paint thinners, some dry-cleaning solvents. An exact source could not be identified Item 2. Gasoline was present Although an ignitable liquid type or class has been nominated, it must be noted that some commercial products incorporoate similar liqids into their products - either within their specific formulation (e.g. degreasers, carburettor cleaners, etc.), or as "carrier" for the key component (e.g. some aerosol or liquid products).
RJZE7D	A residue of a medium petroleum distillate was detected in Item 1. Examples of a medium petroleum distillate include charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticides. A residue of gasoline was detected in Item 2. No ignitable liquids were detected in Item 3. The samples were extracted by passive adsorption-elution techniques and analyzed by gas chromatography with mass spectrometry.
RNZB2W	A Miscellaneous Product was identified in Exhibit #1. The mixture was found to contain a light aromatic and medium petroleum distillate. Examples of a light aromatic include paint removers, and xylenes-based products. Examples of medium petroleum distillates include charcoal starters and paint thinners. Gasoline was identified in Exhibit #2. No ignitable liquids were detected in Exhibit #3. 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, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background material. The exhibits were extracted by Passive Headspace Concentration extraction with activated charcoal and analyzed by Gas Chromatography/Mass Spectrometry.
RUX7MQ	In Item 1 an ignitable liquid is present, belonging to the group "Medium Petroleum Distillates". Liquids from this group are commercially available and sold as, e.g.: paint thinners, barbecue lighters, dry cleaning solvents, paint solvents/cleaners In Item 2 gasoline is present.
RWZ7HG	Item 1. A miscellaneous mixture containing (1) a medium petroleum distillate and (2) a light aromatic product was identified in the heat-sealed bag containing a piece of white fabric. Examples of medium petroleum distillates are some charcoal starters, paint thinners, and mineral spirits. Examples of light aromatic products are xylenes and laquer thinners. Item 2. Partially evaporated gasoline was identified in the heat-sealed bag containing a piece of white fabric. Item 3. No ignitable liquids were identified in the heat-sealed bag containing a piece of white fabric. (Comparison).
RZLXQD	Item 1 extract contained a Medium Miscellaneous Product. Examples of Medium Miscellaneous Products include but are not limited to turpentine, blended and specialty products. Item 2 extract contained gasoline. Gasoline contains all brands and grades of automotive gasoline including gasohol and E85 No ignitable liquids were identified in the Item 3 extract. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. This item was used as a comparison to Items 1 and 2.
T2HEUN	CTS Item #1 contained a medium petroleum distillate product. Examples of medium petroleum distillate products include, but are not limited to, some charcoal starters, some paint thinners, and some mineral spirits. CTS Item #2 contained gasoline and a medium petroleum distillate product. Examples of medium petroleum distillate products include, but are not limited to, some charcoal starters, some paint thinners, and some mineral spirits. No ignitable liquids were detected in CTS Item #3.
T479DA	Item 1: An ignitable liquid consistent with a medium (C8-C12) miscellaneous product was identified.

TABLE 4

WebCode	Conclusions
	Examples of medium miscellaneous products include turpentine, blended products, citrus cleaners, and various specialty products. Item 2: Gasoline, an ignitable liquid, was identified The gasoline class of ignitable liquids includes all brands and grades of automotive gasoline including gasohol and E85.
T6TWMN	Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1A) detects the presence of a medium petroleum distillate (MPD) and a light aromatic product; or a blended product/miscellaneous product that contains a medium petroleum distillate (MPD) and a light aromatic product. Examples of MPD's include: some paint thinners, some charcoal starters, mineral spirits, some torch fuels, some lamp oils, some dry cleaning solvents and some solvents for insecticides and polishes. Examples of aromatic products include: some paint and varnish removers, some automotive parts cleaners. Examples of miscellaneous products include: some enamel reducers and some specialty solvents. Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1B) detects the presence of gasoline. Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1C) fails to detect the presence of any ignitable liquids. The procedure employed does not detect the presence of light volatiles such as certain alcohols and acetone.
T8GBAD	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. Gasoline was identified in Item 2.
TBUKYP	Item 1, C-8 to C-13 Petroleum Distillate consistent with Charcoal Lighter Fluid
TFQLFJ	Item 1: Analysis revealed the presence of Medium Petroleum Distillates and Light Aromatic Product which are highly flammable substances Item 2: Analysis revealed the presence of Gasoline, a highly flammable substance. Item 3: No flammable substances was detected
TKPT6M	Items 1-1-1-1-2, 1-2-1-1-2, and 1-3-1-1-2 (ACS sample extracts) from the cloth remnant from the painting lab coat (item 1-1-1-1), the cloth remnant from a section of the curtain (item 1-2-1-1), and the cloth substrate intended as a comparison blank (item 1-3-1-1), respectively, were not analyzed. A Medium Miscellaneous ignitable liquid was detected in the ACS sample extract (item 1-1-1-1-1) from the cloth remnant from the painting lab coat (item 1-1-1-1). Examples of Medium Miscellaneous ignitable liquids are mineral spirits, fuel additives, spray lubricants, brush cleaners, paint thinners, and charcoal starters. Gasoline was detected in the ACS sample extract (item 1-2-1-1-1) from cloth remnant from a section of the curtain (item 1-2-1-1). No ignitable liquid residues were detected in the ACS sample extract (item 1-3-1-1-1) from the cloth substrate intended as a comparison blank (item 1-3-1-1).
TKUAE6	The test of Item #1 reveled the presence of a medium petroleum distillate with include but not limited to paint thinners, charcoal starters, mineral spirits or lamp oils. The test of Item #2 reveled the presence of gasoline.
TTKUNL	A miscellaneous product containing a light aromatic product and a medium petroleum distillate was identified in Item 1. Examples of commercial products containing a light aromatic product and a medium petroleum distillate include but are not limited to some gloss removers, paint removers, and specialty solvents. Gasoline was identified in Item 2. No ignitable liquids were detected in Item 3. Items 1 – 3 were examined visually and using gas chromatography/mass spectroscopy (GC/MS). Passive adsorption/elution extraction was performed on Items 1 – 3. The activated charcoal strips used to collect volatile organic compounds with an adsorption/elution technique are contained in separate plastic vials, placed in separate, heat-sealed fire debris bags, and each was repackaged inside the original item.
U7379U	In the Item 1 we found presence of petroleum distillate- subclass medium and in the Item 2 we found presence of gasoline
U78FBT	Item 001 : Contains a mixture of a light aromatic solvent, examples of which include automotive parts cleaners and specialty solvents and a medium petroleum distillate, examples of which include charcoal starters, mineral spirits and paint thinners. Item 002 : Contains gasoline. Item 003 : No

TABLE 4

WebCode	Conclusions
	ignitable liquids were detected/identified
U8GPYJ	Lab Item 1: Analysis confirmed a miscellaneous product (mixture of a medium petroleum distillate and a medium aromatic). Lab Item 2: Analysis confirmed gasoline.
UAL3Y7	Instrumental 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. Instrumental analysis of Item 1 also revealed the presence of an aromatic solvent. Products in this range include, but are not limited to: some paint thinners, some insecticides, some fuel additives, and some cleaning solvents. Instrumental analysis of Item 2 revealed the presence of evaporated gasoline. This result includes all brands and grades of automotive fuels. Instrumental analysis of Item 3 did not reveal the presence of any ignitable liquid residue. This result does not eliminate the possibility that an ignitable liquid was used. Results were confirmed by the following instrumentation: Gas Chromatograph/Mass Spectrometer
UG7732	Laboratory Item #1: A mixture of a light aromatic product and a medium petroleum distillate was identified. Examples of light aromatic products include, but are not limited to, xylenes, automotive parts cleaners, and solvent cleaners. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, and dry cleaning solvents. The ignitable liquids identified in Laboratory Item #1 could have originated from either two independent sources or a single commercial product such as Speedy Spar Varnish. Laboratory Item #2: Gasoline was identified. Laboratory Item #3 (Comparison Sample for Laboratory Item #1 and #2): No ignitable liquids were identified.
UJMRAF	1: Analysis indicates the presence of a medium petroleum distillate. 2: Analysis indicates the presence of gasoline. 3: No ignitable liquids detected. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene and insecticide solvents/propellants. CONCLUSIONS: A medium petroleum distillate was detected in sample 1. Gasoline was detected in sample 2. No ignitable liquids were detected in sample 3. 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.
UKDDNQ	ITEM 1; WAS CLASSIFIED AS MEDIUM PETROLUEM DISTILLATE , IT INCLUDE CARBON RANGE FROM C9-c13 . ITEM 2; WAS CLASSIFIED AS GASOLINE. ITEM 3; NO IGNITABLE LIQUID FOUND.
UKGFTB	A medium petroleum distillate and a light aromatic product were identified in Lab Item 1. Gasoline was identified in Lab Item 2. No ignitable liquids were identified in Lab Item 3. Negative results do not preclude the possibility that ignitable liquids were present at the fire scene. Samples of recovered materials from this case have been preserved with the evidence. Analysis method: Carbon trap followed by Gas Chromatography/Mass Spectrometry.
UKJ4CA	EXHIBIT #AGENCY #DESCRIPTION 1 Item 1 White cloth. Examination reveals the presence of an ignitable liquid residue in the Medium Range of the Miscellaneous Class. Refer to the attached Ignitable Liquid Classification System. 2 Item 2 White cloth. Examination reveals the presence of an ignitable liquid residue in the Gasoline Class. Refer to the attached Ignitable Liquid Classification System. 3 Item 3 White cloth (comparison sample). No ignitable liquid residue as defined by the attached Ignitable Liquid Classification System was detected. Exhibits 1 through 3 were analyzed using passive adsorption on an activated charcoal strip. The strip was extracted with a solvent and the recovered volatile material was analyzed by gas chromatography / mass spectrometry. An additional charcoal strip was collected for preservation purposes and will be retained with the evidence.

TABLE 4

WebCode	Conclusions
ULFGY3	Analysis of exhibit IL (Item 1) detected the presence of a medium-range miscellaneous product (examples include: certain paint/varnish removers, certain carpet/upholstery cleaners, certain waterproofing products, etc.). Analysis of exhibit IL (Item 2) detected the presence of gasoline. The term gasoline includes all brands/grades of automotive gasoline. Analysis of exhibit IL (Item 3) failed to detect the presence of any ignitable liquids.
UPERV3	Item #1: A medium range miscellaneous product was detected. Examples of medium range miscellaneous products include some charcoal starters, some paint thinners, and some spray lubricants. Item #2: Gasoline was detected. Item #3: No ignitable liquids were detected.
UPLYCN	Item 1 : Flammable liquid detected. Serie of n-alkane with interstitial peaks of isoalkanes with gaussian distribution from nC9 to nC12. It is medium de-aromatized petroleum distillate of the mineral spirit type. Item 2: Flammable liquid detected. Presence of aromatic compounds (toluene, C2, C3, C4, C5-alkylbenzene), naphtalenes, indanes and aliphatics from nC5 to nC14. Product identified as gasoline, highly evaporated. The presence of aliphatics nC9 to nC14 may come from petroleum distillate, however this type of profile is observed for evaporated gasoline and may be due to regional differences.
UQUZD3	I formed the opinion based on the technique used, that the exhibit collected of the cloth remnant from the painting lab coat (item 1) was found to contain medium petroleum distillate class ignitable liquid residues. Examples of medium petroleum distillate products include some formulations of varnishes, enamels and timber oils. I also formed the opinion based on the technique used, that the exhibit collected of the cloth remnant from a section of the curtain (item 2) was found to contain gasoline class ignitable liquid residues. Gasoline is an ignitable liquid. I further formed the opinion based on the technique used, that the exhibit collected of the cloth substrate blank (item 3) was found not to contain any detectable ignitable liquid residues.
UV8RNM	1. A medium, petroleum distillate was identified on Item 1 (Cloth remnant from the painting lab coat). 2. A medium, petroleum distillate was identified on Item 2. (Cloth remnant from a section of the curtain). 3. No ignitable liquid was detected on Item 3 (Cloth substrate intended as a comparison blank).
UXAUWD	The Item 1 extract contained a mixture of a light aromatic product and a medium petroleum distillate. The light aromatic product can be found in, but is not limited to, some adhesive removers. The medium petroleum distillate can be found in, but is not limited to, some paint thinners and charcoal starter fluids. This mixture can be found in, but is not limited to, some cleaning solvents. The Item 2 extract contained gasoline. No ignitable liquids were identified in the Item 3 extract.
V8JG44	Item 1: We have identified a Medium Petroleum Distilate with unexpected amount of Xylenes. Without any similar reference in our database we have concluded that it was a mix of DPM and Aromatics. That's why Item1 has been classified as miscellaneous. Item 2: Gasoline has been identified with additional DPM Item 1 and Item 2 have not a common source
VBHTZ4	ITEM 1: The analyzes revealed the presence of a mixture composed of a de-aromatized Medium Petroleum Distillate and an aromatic product. According to the ASTM E1618-14 norm, this mixture can be classified as a medium miscellaneous product. Exemples of commercial product that contain such mixture include some paint thinners and cleaning solvents. ITEM 2: The analyzes revealed the presence of a Gasoline. ITEM 3: No ignitable products were detected.
VFNP9K	Item 1 was identified as a miscellaneous product consisting of a light aromatic product and a medium distillate product. Examples of miscellaneous products include, but are not limited to, mineral spirits, paint thinners, and other specialty solvents. Item 2 was identified as gasoline. No ignitable liquid residues were detected in Item 3. Items 1, 2, and 3 were examined visually and using gas chromatography/mass spectroscopy (GC/MS). Headspace analysis and passive adsorption/elution extraction was performed on Items 1, 2, and 3. The activated charcoal strips used to collect volatile organic compounds with an adsorption/elution technique are contained in separate plastic vials, placed in separate, heat-sealed fire debris bags, and were repackaged inside the original items.

TABLE 4

WebCode	Conclusions
VG96VZ	Item 1 - Cloth remnant from the painting lab coat: A medium range (C8-C13) petroleum distillate product was identified in the sample. This identification is based on the ASTM 1618 Classification Scheme. Examples of commercial products of this class include: Paint thinners, mineral spirits, lamp oils and kerosene. Item 2 - Cloth remnant from a section of the curtain: A gasoline product was identified in the sample. This identification is based on the ASTM 1618 Classification Scheme. Item 3 - Cloth sample (comparison blank): Item 3 was submitted for substrate comparison to the other two samples. No ignitable liquids were detected in Item 3.
VJFFVB	1. A light aromatic product (consisting of ethylbenzene, p-xylene, m-xylene, and o-xylene) and a medium petroleum distillate were detected in Item 1. Light aromatic products and medium petroleum distillates are ignitable liquids and could act as fire accelerants. Uses of light aromatic products include, but are not limited to, some paint and varnish removers, some automotive parts cleaners, and some specialty solvents. Uses of medium petroleum distillates include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. It is not known whether these ignitable liquids originate from a single, blended product or from two separate sources. 2. Gasoline was detected in Item 2. Gasoline is an ignitable liquid and could act as a fire accelerant. 3. No ignitable liquid, or its residue, was detected in Item 3.
VRXB8J	ITEM 1: The results very strongly support the proposition that item 1 contains white spirit or other products containing white spirit components (i.e charcoal starters, degreasers or similar products). ITEM 2: The results strongly support the proposition that item 2 contains gasolin. The results strongly support the proposition that item 2 also contains an unknown petroleum product. The results are inconclusive regarding which product.
W4AWCX	Analysis of exhibit IL, Item 1 detected the presence of a medium range miscellaneous product (examples: some deglossing solvents, some paint thinners, some brush cleaning solvents, etc.). Analysis of exhibit IL, Item 2 detected the presence of gasoline. The term gasoline includes all brands and grades of automotive gasoline.
W4EBXW	Item 1- Cloth remnant from the painting lab coat: A medium petroleum distillate was detected on the sample. This identification is based on the ASTM 1618 Classification Scheme. Examples for this class includes paint thinners, kerosene and lamp oils. Item 2- Cloth remnant from a section of the curtain: Gasoline was detected on Item 2 based on the ASTM 1618 Classification Scheme. Item 3- Cloth substance intended as a comparison blank: NO ignitable substances were detected on Item 3
W6KZLF	1. A light aromatic product and dearomatized medium petroleum distillate were detected in Exhibit 1, both of which are ignitable liquids and could act as fire accelerants. Uses of light aromatic products include, but are not limited to, some paint and varnish removers, some automotive parts cleaners, and xylenes. Uses of dearomatized medium petroleum distillates include, but are not limited to, some low odour charcoal starters and some low odour paint thinners. Light aromatic products and dearomatized medium petroleum distillates can be found together in some commercially available blended products including, but not limited to, some brush cleaners, some aromatic paint thinners, and some spot removers. It cannot be determined whether the light aromatic product and dearomatized medium petroleum distillate detected in Exhibit 1 originate from a single blended product or from a mixture of two separate products. 2. Gasoline was detected in Exhibit 2. Gasoline is an ignitable liquid and could act as a fire accelerant. 3. No ignitable liquid, or its residue, was detected in Exhibit 3.
WA28EA	Item 1: The results of the examination extremely strongly support that Item 1 contain ignitable liquid (Level +4). Item 2: The results of the examination extremely strongly support that Item 2 contain ignitable liquid (Level +4).
WAVPNX	Exhibit 1 contained a light aromatic product and a medium petroleum distillate, both of which are ignitable liquids. It could not be determined whether Exhibit 1 contained a single commercial product, such as a gloss remover or paint remover, or a mixture of two individual products. Examples of light aromatic products include some paint and varnish removers and some xylene-based products. Examples of medium petroleum distillates include some paint thinners and some charcoal starters.

TABLE 4

WebCode	Conclusions
	Gasoline, which is an ignitable liquid, was identified in Exhibit 2 No ignitable liquids were identified in Exhibit 3.
WBADM4	Item 1: A mixture containing a light aromatic product and a medium petroleum distillate was found. This can be from a blended product or from a physical mixture. Examples of light aromatic products include, but are not limited to, solvent cleaners, lacquer thinners, paint and varnish removers, automotive parts cleaners, xylenes, and toluene-based products. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticide vehicles. Item 2: Gasoline found. This includes any brand or octane, as well as any alcohol-blended gasoline. Item 3: No ignitable liquids found.
WF7YTW	An ignitable liquid residue in the Miscellaneous Product category was detected within the kapak bag containing the white terry cloth fabric sample from the painting lab coat (Item 1). This residue contained both Light Aromatic and Medium Petroleum Distillate components. This could be a combination of two or more products or a single product that contains both substances. Examples of products in the Light Aromatic Class include some automotive parts cleaners, some solvent cleaners, and some lacquer thinners. Examples of products in the Medium Petroleum Class include some charcoal starters, some paint thinners, some spray lubricants, some lamp oils, some automotive parts cleaners, and some dry cleaning solvents. Gasoline was detected within the contents of the kapak bag containing the white terry cloth fabric sample from the curtain (Item 2). No ignitable liquid residue or interfering substances were detected within the contents of the kapak bag containing the white terry cloth fabric sample submitted as a substrate blank (Item 3).
WHD9UH	Item 001-001: Residues of a medium petroleum distillate (MPD) were identified. The MPD presented as dearomatized with the exception of ethylbenzene and xylenes, possibly indicative of a mixture of products. Item 001-002: Residues of gasoline were identified. Item 001-003: No ignitable liquid residues were identified.
WJZYUM	ITEM 1: A flammable liquid residue was detected in item 1. It contains normal, iso- and cycloalkanes in the boiling point range bounded by the boiling points of normal octane and normal tridecane, as well as xylene isomers and a more precisely unidentified, presumably ester component. It practically does not contain alkylbenzene isomers with 9, 10 carbon atoms and polyaromatic hydrocarbons. ITEM 2: A flammable liquid residue was detected in item 2. It contains normal, iso- and cycloparaffins (including iso-octane) in a distribution similar to “usual” gasoline, as well as characteristic aromatic isomers with 7-11 carbon atoms of alkylbenzenes, but the relatively large amount of nonane-tetradecane is very different from the “usual” gasoline. In the boiling point range bounded by the boiling point of normal nonane and normal tetradecane, the detected composition resembles the composition of octane-enhancing additives. No oxygenates in the sample could be identified. Overall, the detected component composition may originate from gasoline. Gasoline with this composition is not commercially available in our country.
WLTRQ7	Item 1: A mixture containing a light aromatic product and a medium petroleum distillate was found. This can be from a blended product or from a physical mixture. Examples of light aromatic products include, but are not limited to, solvent cleaners, lacquer thinners, paint and varnish removers, automotive parts cleaners, xylenes, and toluene-based products. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, dry cleaning solvents, mineral spirits, automotive parts cleaners, spray lubricants, lamp oils, deck sealers, varnishes, kerosene, and insecticide vehicles. Item 2: Gasoline found. This includes any brand or octane, as well as any alcohol-blended gasoline. Item 3: No ignitable liquids found.
WUK33M	The analysis performed in our laboratory on the Item 1 enabled the detection of a Miscellaneous of Aromatic and Medium Petroleum Distillate The analysis performed in our laboratory on the Item 2 enabled the detection of a Gasoline. The analysis performed in our laboratory on the Item 3 did not show the presence of any ignitable liquid in the substrate.
WZAM4G	The sample taken from item 1, the cloth from the lab coat, contained a residue of a medium

TABLE 4

WebCode	Conclusions
	petroleum distillate (MPD) which has been blended with an aromatic product. Examples of an MPD include white spirit and some paint thinners. It is also used as a solvent in some paints. In my opinion, the presence of additional aromatic compounds may indicate this is a specialist product such as paint remover or paint thinners. The sample taken from item 2, the cloth from the curtain, contained a residue of petrol. There were also other volatile materials present which could have originated from a medium petroleum distillate. The sample taken from item 3, the control sample of cloth, contained some volatile materials at a relatively low level and no specific flammable liquid residue could be identified.
X8RGP7	Item# 001-AA: An ignitable liquid consistent with a medium miscellaneous product was identified. Examples of medium miscellaneous products include mineral spirits, paint thinners, brush cleaners, blended products, and various specialty products. Item# 001-AB: Gasoline, an ignitable liquid, was identified The gasoline class of ignitable liquids includes all brands and grades of automotive gasoline including gasohol and E85. #001-AC: This comparison sample was analyzed and the results were used in evaluating possible matrix influences on other submitted sample(s).
X9MWLU	A medium miscellaneous ignitable liquid was detected in item 1. Medium miscellaneous products may include turpentine products, mineral spirits, fuel additives, spray lubricants, brush cleaners, paint thinners, citrus cleaners, and charcoal starters. Gasoline was detected in item 2. No ignitable liquid residues were detected in item 3.
XJVWHN	Results/Opinions/Interpretations of Fire Debris Analysis: Item #1 to #3: 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. Item # 1: A miscellaneous petroleum product (e.g. cleaning solvents, industrial solvents, fuel additives) was detected. Item # 2: Gasoline was detected. Item # 3: The item was analyzed as a comparison sample.
XPCWGZ	Analysis of Item 1 shows presence of a medium petroleum distillate. Medium petroleum distillates gather flammable products for various applications, such as paint removers (including White Spirit), lighter fluids etc... This kind of products is readily accessible for sale. Analysis of Item 2 shows presence of a mix of medium petroleum distillate and gasoline. Gasoline is an extremely flammable product which have a fire point around -40°C : it could then be ignited very easily at room temperature, with a minimal energy input such as flamme of a lighter or a cigarette for instance. In the gasoline class is also included derivatives for two and four stroke engines. Medium petroleum distillates gather flammable products for various applications, such as paint removers (including White Spirit), lighter fluids etc... This kind of products is readily accessible for sale.
XPQJKN	Item 001: Contains a mixture of a light aromatic solvent, examples of which include automotive parts cleaners and specialty solvents and a medium petroleum product, examples of which include charcoal starters, mineral spirits and paint thinners. Item 002 : Contains gasoline. Item 003 : No ignitable liquids were detected/identified.
XXGBLM	A medium petroleum distillate and a light aromatic product were detected in Item 1. Examples of a medium petroleum distillate product would include some charcoal starters and paint thinners. Examples of a light aromatic product would include some paint removers and automotive parts cleaners. Gasoline was detected in Item 2. No ignitable liquids were identified in Item 3.
Y6DBR3	Medium petroleum distillate was detected from Item 1. Gasoline was detected from Item 2
Y6R2FD	By means of physical study and chemical analysis: 1. A flammable/combustible substance was detected in evidence item 1 within the classification of medium petroleum distillates (MPD). This classification includes some paint thinners, fuel injector cleaner, some cleaning solvents and some charcoal starters. The reference material used, in addition to the MPD, presents aromatics (Xylenes) that are present in item 1 but in a low proportion. 2. The flammable substance gasoline was detected in evidence item 2. 3. No flammable or combustile substances were detected in evidence item 3.

TABLE 4

WebCode	Conclusions
Y87CNJ	Item 1: The square piece of white cloth contains a medium miscellaneous ignitable liquid residue. Examples of this type of liquid can include, but are not limited to, some turpentine products, some blended products, and some specialty products. Item 2: The square piece of white cloth contains a gasoline ignitable liquid residue. Item 3: An ignitable liquid residue was not detected on the square piece of white cloth.
YA93ZZ	1-1 white cloth: Light aromatic product, examples of which are some paint and varnish removers, some automotive parts cleaners, xylenes, and toluene-based products. Medium petroleum distillate, examples of which are some charcoal starters, some paint thinners, and some dry cleaning solvents. 1-2 white cloth: Gasoline. 1-3 white cloth: No ignitable liquids were found.
YDCTD7	Item 1: Medium Distillate Petroleum was found as well as Xylene. (such a mixture) Medium Distillate Petroleum may include paint solvents (or sillicon removers). Item 2: Gasoline was found.
YEMVY6	An ignitable liquid classified as a medium petroleum distillate was detected in item 1. Examples of medium petroleum distillates include charcoal starters, paint thinners, or dry cleaning solvents. Item 2 contains gasoline. Gasoline is an ignitable liquid. An ignitable liquid was not detected on item 3.
YMBTGX	1. Laboratory Item #1: A mixture of a light aromatic product and a medium petroleum distillate was identified. a. Examples of light aromatic products include, but are not limited to, solvent cleaners, automotive parts cleaners, and lacquer thinners. b. Examples of medium petroleum distillates include, but are not limited to, charcoal starters, paint thinners, and mineral spirits. c. The ignitable liquids identified in Laboratory Item #1 could have originated from either two independent sources or a single commercial product, such as Sunnyside Gloss Remover. If a particular product or substance is suspected, it can be submitted to the laboratory for analysis. 2. Laboratory Item #2: Gasoline was identified. 3. Laboratory Item #3 (comparison sample for Laboratory Items #1 and #2): No ignitable liquids were identified.
YNCH6R	A Miscellaneous Product was detected in exhibit #1. The Miscellaneous Product consisted of an Aromatic and Medium Petroleum Distillate mixture. Gasoline was detected in exhibit #2. No ignitable liquids were detected in exhibit #3. The exhibits were extracted by passive headspace concentration with activated charcoal and analyzed by gas chromatography-mass spectrometry.
YZLYYR	Item 1 (Exhibit 1) A Medium Miscellaneous Product containing an aromatic and a medium petroleum distillate was detected. Examples of a Medium Miscellaneous Product include turpentine products, lamp oils, mineral spirits, fuel additives, spray lubricants, brush cleaners, paint thinners, citrus cleaners and charcoal starters. Item 2 (Exhibit 2) Gasoline was detected. Item 3 (Exhibit 3) No ignitable liquid was detected. Caprolactam was detected.
Z7AZUM	A miscellaneous product containing a light aromatic product and a medium petroleum distillate was present in Item 1. Please note: This result could be two separate ignitable liquids or a blended product containing both a light aromatic product and a medium petroleum distillate such as a brush cleaner, gloss remover and other proprietary formulations. Examples of medium petroleum distillates includes some types of charcoal starters, paint thinners, mineral spirits and lamp oils. Examples of light aromatic products include some types of xylols and brush cleaners. Gasoline was present in Item 2. No ignitable liquid residues were detected in the comparison sample, Item 3.
ZE2JXB	The item (#1) tested positive for a Medium Petroleum Distillate class of ignitable liquid. Items in this classification include but are not limited to some paint thinners, some dry cleaning solvents, and some charcoal lighter fluids. The item (#2) tested positive for a Medium to Heavy Miscellaneous Product class of ignitable liquid. Items in this classification include but are not limited to some blended products and some specialty products.
ZLJ6QF	A light aromatic product and a medium petroleum distillate, both ignitable liquids, were identified in Item 1. It cannot be determined if this is a single product or a mixture of products. Examples of light aromatic products include some paint and varnish removers and automotive parts cleaners. Examples of medium petroleum distillates include some charcoal starters, paint thinners and dry-cleaning

TABLE 4

WebCode	Conclusions
	solvents. Gasoline, an ignitable liquid, was identified in Item 2. No ignitable liquid residues were identified in Item 3 (substrate control).
ZV4EAH	1. Volatile residues from Exhibits 1 (cloth remnant from the painting lab coat), 2 (cloth remnant from a section of the curtain), and 3 (cloth substrate intended as a comparison blank) 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. Gasoline was identified in the concentrated headspace vapors of Exhibit 2. 4. No ignitable liquid residues were identified in the concentrated headspace vapors of Exhibit 3.
ZZVPZ8	METHODS: Items 1, 2, and 3 were extracted using a passive adsorption-elution technique. The Item 1, 2, and 3 extracts were examined using Gas Chromatography-Mass Spectrometry (GC-MS). RESULTS AND INTERPRETATIONS: The Item 1 extract contained a mixture of a light aromatic product and a medium petroleum distillate. The light aromatic product can be found in, but is not limited to, some paint thinners and automotive part cleaners. The medium petroleum distillate can be found in, but is not limited to, some mineral spirits, paint thinners, and charcoal starter fluids. This mixture can be found in, but is not limited to, some paintbrush cleaners. The Item 2 extract contained gasoline. No ignitable liquids were identified in the Item 3 extract.

Additional Comments

TABLE 5

WebCode	Additional Comments
2PGTAU	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. Chain of Custody records and details of the GC-MS analysis may be provided upon request.
2PZTWW	"Item 2": this gasoline contained an higher than usual amount of a medium destillate (by [Country] standards). We are not aware of the US qualities of gasoline, so this might be a usual quality there. General: the used (inner) bags are not gastight and not appropriate for sampling of ignitable liquids. The products could be easily detected in the space BETWEEN the to bags. Therefore, it could not be excluded, that the higher than usual content of destillate in "Item 2" might be a contamination from "Item 1".
2X8E69	Note: It is not possible to determine if the components of Item 1 constitute one product or a mixture of products. Date of receipt of evidence: 08/08/2022 Date(s) of performance of the laboratory activity: 08/09/22, 08/10/22, 08/11/22, 09/08/22, 09/09/22 The evidence will be returned to the submitting agency.
364T4E	a) Examples of products that can contain ethylbenzene, xylenes, straight-chain alkanes, branched-chain alkanes and cycloalkanes include some paint and varnish removers. b) 2,2,4-trimethyl-1,3-pentanediol diisobutyrate can be used in lubricants and surface coatings, and can also be found in apparels, inks and plasticisers.
3PX7DW	Items 1 through 3 were examined using a passive adsorption/elution technique followed by analysis with gas chromatography/mass spectrometry (GC/MS)
4HNMY6	Item 1A is agency item 1. Item 1B is agency item 2. Item 1C is agency item 3.
6EYFB2	In Item #1, aromatic c2's were noted but not reported due to being present in the substrate (Item #3).
6MX8GB	According to ASTM E1618-19 Ignitable Liquid Classification Scheme, ethylbenzene, xylenes, 2,2,4-trimethyl-1,3-pentanediol diisobutyrate, cycloalkanes, branched alkanes and n-alkanes in the range of C9 to C12 can be classified as medium others-miscellaneous. According to literature, ethylbenzene, xylenes, cycloalkanes, branched alkanes and straight chain alkanes can be present in some paint and varnish removers, paint thinners and brush cleaners, among other products. According to literature, 2,2,4-trimethyl-1,3-pentanediol diisobutyrate can be found in coatings and inks, and can also be present as background in apparels and paints.
6NQ2CU	The Item 1 sample could also be interpreted as a mixture of an aromatic product and a medium petroleum distillate.
6NQVY7	The identification of an ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present.
7JAVFJ	These items were processed using passive headspace concentration with an activated charcoal strip and analyzed using a gas chromatograph/mass spectrometer. Examples of a medium petroleum distillate may include charcoal starters, paint thinners, and dry cleaning solvents. Examples of a light to medium aromatic product may include paint and varnish removers, automotive parts cleaners, specialty cleaning solvents, insecticide vehicles, and fuel additives.
86T9R8	I detected ignitable liquid residues of a possible medium petroleum distillate and medium aromatic mixture in Item 001-1, thereby classifying the residues as miscellaneous. I detected ignitable liquid

TABLE 5

WebCode	Additional Comments
	residues of a possible gasoline and medium-heavy petroleum distillate mixture in Item 001-2, thereby classifying the residues as miscellaneous.
8A2W69	Again, this proficiency is not representative of casework. The substrates are unrealistically clean without any possible interferences. Fabric from a fire such as suggested in this scenario would have at least some staining and likely charring. Also, a lab coat would not be coincidentally made of the same fabric as the curtains, and neither would be terrycloth.
8JQDR4	1) Example of a medium miscellaneous product like the one present in item 1, are some cleaning solvents. 2) Examples of a medium petroleum distillates like the one present un item 2 are same cleanig solvents, paint thinners, fuel additive/ treatment and charcoal starters.
8JXD9J	Item 1 was classified as Miscellaneous because it is a mixture of MPD and aromatic. It also could be considered an MPD because that is the dominant profile.
9MAXBP	The compounds identified in item 1 are consistent with the ingredients found in cleaning solvents such as a brush or a gloss cleaner. There might be a legitimate reason of the presence of this products on a cloth remnant from the painting lab coat. The presence of gasoline in item 2 on a section of the curtain is suspect. Further investigations should be conducted.
A9EXX2	The Medium Others-Miscellaneous Products detected on the sample received and labeled as item 1, has a n-alcanes ion profile with carbon number range between C9 – C12.
AFHXG4	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 o.f 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.
ARUBH6	Item 1 was classified as medium miscellaneous residue because it appeared to be a mixture of a dearomatized medium petroleum distillate (major component) and a medium aromatic product (minor component). The aromatic profile did not overlap with the range of the distillate pattern, indicating that the aromatic compounds were not part of the distillate pattern. Item 2 was classified as gasoline, but it appeared to be a mixture of gasoline residues at different stages of evaporation. The pattern was most similar to a mixture of approximately 25% evaporated gasoline (major component) and approximately 90% evaporated gasoline (minor component). It may be possible that the data could also have been produced from a mixture of approximately 50-60% evaporated gasoline (major component) and a medium petroleum distillate (minor component). For the purpose of testing proficiency, I believe these items are overly complex and will likely lead to wider variation in the results reported by participants.
B36EWE	The comparison sample was unrealistic as it was a comparison for both the curtain and lab coat, and in reality a lab coat and curtain would not be made of the same material.
BWNQPQ	Ignitable liquid classification is based on ASTM E1618 Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectrometry and/or the laboratory's internal policy and procedures. All evidentiary items are returned to the [Laboratory] Property and Evidence Section unless otherwise noted above. The [Laboratory] is responsible for all information and results provided in the report as they apply to the evidence as received, except for any data and information, to include item descriptions that were provided by the customer, which can affect the validity of results. The relevant supporting data is available for review/inspection. The results relate only to the items tested, analyzed or compared. This report shall not be reproduced, except in full, without approval from the [Laboratory].
CH79H8	Our result is according to table (1) -ASTM E 1618-14.

TABLE 5

WebCode	Additional Comments
DNF2PW	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.
DV9YWJ	We are using ASTME-1618 scheme for the interpretation of the analysis result.
EGGMR3	Item 1, Item 2 and Item 3 were examined visually and using gas chromatography/mass spectrometry (GC/MS). Passive adsorption/elution extraction was performed on Item 1, Item 2 and Item 3. The activated charcoal strips used to collect volatile organic compounds with an adsorption/elution technique are contained in separate plastic vials placed in separate, heat-sealed fire debris bags and each was repackaged inside the original item.
EPRZUR	The identification of an ignitable liquid in an item does not necessarily lead to the conclusion that a fire was deliberately set. Light aromatic products are ignitable liquids and are found in such commercial products as some lacquer thinners, some solvent and automotive parts cleaners, and xylene/toluene-based products. Medium petroleum distillates are ignitable liquids and are found in such commercial products as some charcoal starters, some lamp oils, 'Varsol', some paint and paint thinners, some dry-cleaning solvents, and some products marketed as kerosene. Gasoline is an ignitable liquid that is commonly used as a fuel in vehicles and small engines. The mixture of light aromatic product and medium petroleum distillate identified in item 1 may originate from two independent commercial sources or from a single unidentified commercial product. Technical assistance has been provided in the examination and analysis of the items discussed in this report, in accordance with the policies and procedures of the Centre of Forensic Sciences. The following instrumental analytical technique was used to analyze the items: Gas Chromatography – Mass Spectrometry (GC-MS)
EWZCY3	The gasoline detected in the second sample is a gasoline partially evaporated.
FCY3Z8	Item 1A above is CTS Item 1. Item 1B above is CTS Item 2. Item 1C above is CTS Item 3
FNT86X	The detected compounds of Item 3 (blank sample) negligible influenced on chromatographic pattern of suspected material and interpretation of results.
FYZZTJ	No additional comments in report. A phone call to the investigator is important here. The wording of the report, by placing "paint thinners, mineral spirits" in the front of the potential items already emphasizes how an MPD can be found in these household items, especially considering the painting smock. A phone call could allow for a conversation to take place about the context and allow me to further emphasize where the MPD could originate from, without being presumptuous or leading in the report. A measured approach is what I'm advocating - it is not the laboratories place to determine the source of the MPD.
GDPGYG	It is unknown if the ignitable liquids found in Item 1 represent a single product as manufactured or a subsequent mixture.
GKRJ73	Exhibit 1 contains a mixture of an aromatic product and a petroleum distillate.
GMUFVW	Items 1, 2, and 3 were examined visually and using gas chromatography/mass spectrometry (GC/MS). Passive adsorption/elution extraction was performed on the items. The activated charcoal strips used to collect volatile organic compounds with an adsorption/elution technique are contained in separate plastic vials, placed in separate, heat-sealed fire debris bags, and each was repackaged inside the original item.
GRQ9M7	Regarding the tactical information, it will be necessary to check if the products found are compatible with the site (art studio, paintings, ...).
H3VFEB	The ignitable liquid and components identified in #1 are very similar to the ingredients found in

TABLE 5

WebCode	Additional Comments
	Sunnyside Brush Cleaner.
J9EZZ3	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 releval a legitimate reason for the presence liquid residues. 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.
JLE6P4	Item #1: a mixture of an MPD and Light Aromatic Product were identified, this could be a result of a blended Miscellaneous Product or individual ignitable liquid classes. No determination of the origin was made at this time.
JRZXZ4	The combination of ignitable liquids present in Item #1 could be the result of a blended Miscellaneous product or each individual ignitable liquid present in the debris. No determination of origin was made at this time.
K23GUJ	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 could reveal a legitimate reason for the presence of ignitable liquid residues. 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 could have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials. Note (Item 1): It was noted that the aromatics (xylenes) abundance was higher than that of the reference material used for comparison. The difference in abundances is most like a result of the sample being extracted and the comparison material being prepared from neat liquid.
K4AZRJ	A plasticizer (TXIB) was detected in traces in item 1. This compound is notably present in adhesives/sealants-B&C, automotive, childcare items, inks and paints.
K64NAE	Discussion & Significance of Report Information: 1. An ignitable liquid is any liquid that is capable of fueling a fire; this includes flammable and combustible liquids, or any other material that can be liquefied and burned. 2. Flash point is defined as the minimum temperature to which a liquid must be heated for the vapours emitted to ignite momentarily in the presence of a flame under standardised conditions (1). 3. A flammable liquid is defined as "any liquid" with a flash point below 38 °C that burns readily; a combustible liquid is defined as "any liquid" with a flash point above 38 °C. Both are capable of forming a flammable vapour/air mixture (1). 4. Flammable liquids (including medium petroleum distillates and petrol) may be used to accelerate the combustion of materials that do not readily burn. 5. Petroleum distillates are fractions of crude oil separated by distillation, a process where the crude oil is heated and fractions are separated based on their boiling point range. Boiling point range can be represented by normal alkane carbon number. 6. Medium petroleum distillates are from the fraction containing compounds within the normal alkane range C8 – C13 with an approximate boiling point range of 120 – 240+ °C (2). Medium petroleum distillates include mineral turpentine, white spirits and some dry cleaning fluids (3). 7. Petrol is a flammable liquid, flash point -45 °C (1) that is refined from the crude oil component of petroleum. It is made up of hundreds of compounds each with individual boiling points. The range of these boiling points depends on the molecular weight of each compound; this allows the components to be separated during analysis, resulting in a characteristic chromatogram (4). Lighter compounds, those with lower molecular weights and boiling points, evaporate more rapidly than the heavier compounds at all temperatures (from room temperature through to the extreme temperatures of fire). An unevaporated petrol sample would therefore show a different chromatogram than a sample that was 90% evaporated (that is, 90% of the weight of the petrol sample has been lost due to evaporation) (4). A sample would be said to contain partially evaporated petrol residues when the ratio of light to heavy components is less than the ratio observed in an unevaporated petrol sample. 8. The techniques used to detect ignitable liquid residues are very sensitive and are capable of detecting residues not visible to the naked eye. At these levels such residues may exist in the vapour phase within the container or trapped in the matrix of the substrate enclosed by the container. References: 1. ALMIRALL J & FURTON K, Analysis and Interpretation of Fire Scene Evidence, CRC Press, FL, USA, 2004. 2. STAUFFER E, DOLAN J &

TABLE 5

WebCode	Additional Comments
	NEWMAN R, Fire Debris Analysis, Elsevier Inc, Oxford, UK, 2008. 3. [Country, Standard]. 4. DAEID N., Fire Investigation, CRC Press, Florida, USA, 2004.
K6LRRM	Miscellaneous class composed of a medium aromatic and medium petroleum distillate.
L3B93Q	Too easy
LFHUUV	NOTE: Although an ignitable liquid was identified in the submitted sample(s), further investigation may reveal a legitimate reason for the presence of an ignitable liquid. NOTE: A finding of no ignitable liquids identified does not preclude the possibility that ignitable liquids were present in the sample(s). Explanations for a finding of no ignitable liquids may be, but are not limited to: not present in the sample, does not meet current ASTM requirements, evaporation of the volatile compounds, complete consumption in a fire, environmental alteration, masked by background material, or a limitation of the reference material available to this laboratory.
LP7V4E	It is unknown if the ignitable liquids found in Item 1 represent a single product as manufactured or a subsequent mixture.
LPKEU3	These items were processed using passive headspace concentration with an activated charcoal strip and analyzed using a gas chromatograph / mass spectrometer. Examples of a medium petroleum distillate may include charcoal starters, paint thinners, and dry cleaning solvents. Examples of a light to medium aromatic product may include paint and varnish removers, automotive parts cleaners, xylene based products, specialty cleaning solvents, insecticide vehicles, and fuel additives.
LTAJZE	Item 1: The sample contained residues of a blended product consisting of a medium petroleum distillate and a light aromatic product. Item 2: Petrol is a highly refined petroleum product blend. It is an ignitable liquid. Item 3: This sample was used as a reference for comparison purposes.
M3NZTL	Item 1: Sequential n-alkanes in MPD range are predominant with Gaussian distribution. Ethylbenzene, p-xylene, and o-xylene peaks also present, but at much lower abundance than n-alkanes. MPDs also typically contain aromatic compounds, so no additional call made. Solvent peak present in blank and sample, but relative abundance in sample is very low. Analysis not affected. Item 2: Intragroup ratios of C3 alkylbenzenes is slightly off (1,2,4-trimethyl benzene lower in abundance than the castle), but all key diagnostic features of gasoline are present. Extracted ion profiles fit gasoline criteria (alkanes and indanes present in addition to aromatics) and overlay with known gasoline looks good, so call made. Solvent peak present in blank and sample, but relative abundance in sample is very low. Analysis not affected. Item 3: Solvent peak present in blank and sample. No significant peaks present in sample, so analysis not affected.
MY9MUK	In the sample 2 there were more isoparaffinic hydrocarbons than in normal [Country] gasoline. [Country] gasoline also includes oxygenated additives, which were not detected from the sample. Similar product as sample 2 was not in our labroatorie's own database.
NACY2X	The identification of an ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present.
NBFXWZ	A challenging test that if it was real casework would require legitimate sources to be provided for elimination purposes. We do not use ASTM classification in our casework reports.
NWK98V	Make the substrates in Items 1 and 2 consistent so Item 3 is technically a control for both
PA3KUP	Results for Item 1 could be reported two ways - as two products as I did or as a single miscellaneous product. Both ways are justified.
PECNWK	We have an information sheet similar to Table I in ASTM E-1618 "Ignitable Liquid Classification Scheme with Examples of Known Products for Each Class" , which we send along with the report.
PJJCC8	It is unknown if the ignitable liquids found in item 1-1 represent a single product as manufactured or a subsequent mixture

TABLE 5

WebCode	Additional Comments
PQ6A3F	Samples of recovered materials from this case have been preserved with the evidence. Analysis method: Carbon trap followed by Gas Chromatography/Mass Spectrometry.
PTCK4P	Item 1: The mixture consisted of a medium petroleum distillate and a light aromatic.
PULR4W	Three 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.
PUNG9U	The unanalyzed portion of the activated charcoal strips are being returned to the submitting agency along with the submitted evidence.
QFL93Z	Nylon bags are not ideal for fire debris analysis. They tend to leak, one of my nylon bags was not sealed properly. I cut into the outer bag and could smell the petroleum product.
QHBML9	The ASTM classification scheme is not employed at this laboratory.
QZRJ9N	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 o.f 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.
RJLP88	An [Country]-sourced petrol sample was analysed as a known control, however a U.S.-sourced sample was not available. It is not known to what extent petrol (gasoline) samples from the two countries differ.
RNZB2W	An additional comparison sample seems to be needed as it is not clear whether Exhibit #3 is a sample from the lab coat or the curtains.
T479DA	Item 1 is distillate and aromatic product
T6TWMN	Item 1A is listed as CTS Item 1. Item 1B is listed as CTS Item 2. Item 1C is listed as CTS Item 3.
T8GBAD	It should be noted that a light aromatic product (or compounds associated with it) were identified in Item 3 (the control sample). These same compounds were identified in Item 1 but were not reported due to potential substrate contribution or contamination.
TBUKYP	Item 2, C-7 to C-14 Petroleum Distillate consistent with Kerosene.
TFQLFJ	Blend of Medium Petroleum Distillates and Light Aromatic Product are common components of paint thinners which may have been derived from the painting lab coat The use of gasoline denoted a fire of malicious origin.
U78FBT	Item 2: There are MPD elements in this sample that exceed what is typically found in most modern gasolines, however the data does not contain not sufficient differentiations to definitively conclude that this is a mixture.
UG7732	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.
UKJ4CA	A copy of the Ignitable Liquid Classification System is attached to every report.
UPERV3	The predominant profile was that of a MPD but with the elevated aromatics at the front end of the pattern the miscellaneous category seemed to be the best classification.

TABLE 5

WebCode	Additional Comments
UV8RNM	The ignitable liquid were detected in Item 1 and Item 2 by using Gas chromatography–mass spectrometry(GC-MS).
VG96VZ	Conclusions 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 could reveal a legitimate reason for the presence of ignitable liquid residues. 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 could have evaporated, been totally consumed in a fire, environmentally altered or removed, or otherwise indistinguishable from background materials. Chain of Custody and GC-MS analysis details may be provide upon request Test No.: 21-5436
WA28EA	Item 1: It could be one ore more products in Item 1. Example of products: Paint Thinner, White Spirit, Charcoal Starter, Lamp Oil, Paint Brush and Roller Cleaner. Item 2: Example of products: Gasoline
WBADM4	TXIB found in item #1
WF7YTW	All items were extracted using passive adsorption elution and was analyzed with a gas chromatograph with a mass spectrometer detector (GC/MS). The analysis includes testing for the presence of the following classes of ignitable liquid/residues: gasoline, light, medium, and heavy subclasses of petroleum distillates, isoparaffinic products, naphthenic-paraffinic products, aromatic products, normal alkane products, oxygenate solvents (not including light volatile organic compounds, such as methanol, ethanol, isopropanol, and acetone) and other miscellaneous (ASTM E1618).
WUK33M	Please note that it would be possible to classify the Miscellaneous of Aromatic and Medium Petroleum Distillate of the Item 1 as a Medium Petroleum Distillate.
WZAM4G	I understand that the ASTM classification for an MPD which has been blended with an aromatic product is "Miscellaneous".
XJVWHN	Description of Evidence: Item #1 – Sealed arson bag containing cloth, listed as remnant from the painting lab coat. Item #2 – Sealed arson bag containing cloth, listed as remnant from a section of the curtain. Item #3 – Sealed arson bag containing cloth, listed as substrate intended as a comparison blank. Disposition of Evidence: The unanalyzed portion of each activated charcoal strip is being returned to the submitting agency along with the submitted evidence.
XPCWGZ	Since Item 2 is composed of a mix (gasoline and medium petroleum distillates), class reported is then Other-Miscellaneous, according to ASTM E1618.
XPQJKN	Item 2: a medium petroleum distillate may be present; however, there is insufficient data for a conclusive identification.
XXGBLM	The product detected in Item 1 could also be a miscellaneous product composed of a mix of light aromatic and medium distillate. However, it would be difficult to confirm whether the chromatogram represented one product or two without a comparison standard of unused liquid.
YA93ZZ	It is unknown if the ignitable liquids found in Item 1-1 represent a single product as manufactured or a subsequent mixture.
ZE2JXB	Note: In item #2 a product with a very similar compound profile was made in the lab by mixing a gasoline class product with a medium to heavy distillate class product. It cannot be determined if this is a manufactured product or a clandestine and/or randomly mixed product.

-End of Report-
(Appendix may follow)

Collaborative Testing Services ~ Forensic Testing Program

Test No. 22-5436: Ignitable Liquid Identification

DATA MUST BE SUBMITTED BY **Oct. 3, 2022, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A WebCode: 68N6AN

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

Scenario:

Police are investigating a suspected arson of an art studio. The fire appears to have started in two places. Investigators collected a cloth remnant from a painting lab coat and a section of a curtain. The samples were immediately sealed within nylon evidence bags. The police are requesting you to identify any ignitable liquid(s) that may be present on the painting lab coat and the curtain.

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.

Items Submitted (Sample Pack IL):

Item 1: Cloth remnant from the painting lab coat sealed in a nylon evidence bag.
Item 2: Cloth remnant from a section of the curtain sealed in a nylon evidence bag.
Item 3: Cloth substrate intended as a comparison blank in a nylon evidence bag.

1.) Using the ASTM E 1618-19 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

Class	*Subclass*

Item 2

Class	*Subclass*

2.) Ignitable Liquid Recovery Techniques

Adsorption Headspace

a) Method

- ☐ Passive
- ☐ Dynamic

b) Adsorption Temperature

- ☐ Room Temperature
- ☐ Heated (Temperature: ____ °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 note: *Any additional formatting applied in the free form spaces below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.*

4.) What would be the wording of the Conclusions in your report?

5.) Additional Comments

RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/or 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 below must be completed.)
○ This participant's data is **not** intended for submission to ASCLD/LAB, ANAB, and/or A2LA.

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

ANAB Certificate No.
(Include ASCLD/LAB Certificate here)

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety

Authorized Contact Person and Title

Laboratory Name

Location (City/State)