



Flammables Analysis Test No. 08-536 Summary Report

This proficiency test was sent to 345 participants. Each sample pack consisted of two nylon bags each containing a "wick" with a different flammable liquid (Items 1 and 2), and an unused, sealed nylon bag with a clean "wick" to use as a negative control. Data were returned from 286 participants (83% response rate) and are compiled into the following tables:

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

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

Manufacturer's Information

Each sample pack consisted of three items: two Nylon bags that each contained a "wick" spiked with a flammable substance, and one Nylon bag unused, and sealed containing a sample of the same type of cotton terry cloth which were provided to participants as a negative control sample. The Nylon bags used in this test were produced by the Grand River Products company.

SAMPLE PREPARATION-

The wick in the Item 1 bag contained Weiman Wax Away Candle Wax Remover, and the wick in the Item 2 bag contained Tiki Brand Ultra-Pure Lamp Oil.

CONTROL (PREPARATION): For the control bag, a clean, cotton terry cloth swatch was dropped into a previously opened pre-labeled bag with no flammable substances in the immediate production area. The bag was immediately double heat-sealed across the top using a Midwest Pacific Impulse Heat Sealer, Model MP-12, which produces a 1/8" wide band. After sealing, each bag was inspected to determine if it contained an adequate amount of air space.

ITEMS 1 and 2 (PREPARATION): The two items were prepared and packaged separately. For Items 1 and 2, a clean, cotton terry cloth swatch was held and 25 μ l of the designated flammable substance was pipetted on top of the cloth. Once it was verified that the liquid did not pass through the swatch, it was dropped into a previously opened pre-labeled bag. The bag was immediately double heat-sealed across the top using a Midwest Pacific Impulse Heat Sealer, Model MP-12, which produces a 1/8" wide band. After sealing, each bag was inspected to determine if it contained an adequate amount of air space. Each item was stored separately until the complete sample packs were put together.

VERIFICATION-

Laboratories that conducted predistribution analysis of the samples classified Item 1 as a Medium Isoparaffinic Product. Item 2 was classified as a Heavy Alkanes Product, using the ASTM classification scheme.*

*Source: ASTM E 1387-01, Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography, Table 1.

Summary Comments

This test was designed to allow participants to assess their ability to extract and identify flammable substances packaged in Nylon bags. Participants were provided with three items: two Nylon bags that each contained a "wick" spiked with a flammable substance, and one Nylon bag unused, and sealed containing a sample of the same type of cotton terry cloth which was provided to participants as a negative control sample. The wick in the Item 1 bag contained Weiman Wax Away Candle Wax Remover, and the wick in the Item 2 bag contained Tiki Brand Ultra-Pure Lamp Oil. [Refer to the Manufacturer's Information for preparation details.]

For this report 286 participants responded, however, two participants did not report identification results for any of the Items because they only performed extractions of the samples, which were then forwarded to another laboratory for further analysis.

Of the 284 participants who reported identification results for Item 1, 268 (94%) identified the flammable substance as belonging to the Isoparaffinic Products classification. There were five participants who reported simply Petroleum Distillates. Two participants reported "Others - Miscellaneous"; one wrote in their conclusions no ignitable liquids were detected in Item 1 and the other participant wrote no hydrocarbon fire accelerants were detected. One participant reported "No flammable liquid ID'd". One participant reported "Normal Alkanes" and one participant reported "Naphthenic Paraffinic Product".

There were six additional participants that did not report in the response Table 1a for Item 1. Of these, four indicated in their Conclusions (Table 4) that their testing failed to reveal the presence of a flammable or ignitable liquid. One participant reported in their Conclusions that a Heavy Isoparaffinic product was detected but was inconclusive because the result did not pass their identification limit. Another participant reported in their Conclusions that the item contained a product consistent with a medium n-alkane range but could not exclude other classification possibilities.

For the SubClass determination, of those participants that reported Isoparaffinic Products for Item 1, 239 reported the subclass as Medium, Med or Medium - Heavy. The remaining participants used Product names, Class designations, and/or carbon ranges to report their SubClass.

Of the 284 participants who reported identification results for Item 2, 279 (98%) identified the flammable substance as belonging to the Normal Alkanes Products classification. There were two participants who reported simply Petroleum Distillates. One participant reported "Other - Miscellaneous". One participant reported "Isoparaffinic Product, Aromatic Product, Normal Alkanes Products".

There was one participant that did not report in Table 1b for Item 2. This participant reported in their conclusions that Item 2 contained a product consistent with specific n-alkanes.

For the SubClass determination, of those participants that reported Normal Alkanes Products for Item 2, 178 reported the subclass as Heavy and 44 reported the subclass as Medium or Medium to Heavy. The remaining participants used Product names, Class designations and/or carbon ranges to report their SubClass.

Flammable Identification

Indicate the ASTM E 1618-06 class or classes for any flammable substances detected in the submitted items.

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
11J9DN	Isoparaffinic Products	Medium Range
1D2THW	Isoparaffinic Products	Medium
1DJ4GJ	Isoparaffinic Products	Medium
1EHDHD	Isoparaffinic Products	Medium
1NCV4W	Isoparaffinic Products	Medium
1NUCBQ	Isoparaffinic Products	Medium (C9-C12)
1RVDD7	Isoparaffinic Products	Medium
1UWMHH	Isoparaffinic Products	Medium
1UXEFQ	Isoparaffinic Products*	Medium
1ZGVDA	*	
24FCHE	Isoparaffinic Products	Medium
26XQU4	Isoparaffinic Products	Medium
28NWBFB	Isoparaffinic Products	Medium
2D3H8R	Isoparaffinic Products	Med
2F9T7F	Isoparaffinic Products	Medium
2P2781	Isoparaffinic Products	Medium Range
2QV2QH	Isoparaffinic Products	Medium
2XC9U2	Isoparaffinic Products	Medium Range
2Y64AJ	Isoparaffinic Products	Medium
2ZG2ME	Isoparaffinic Products	Medium
321H9S	Isoparaffinic Products	Medium
331QR7	Isoparaffinic Products	Medium
33F9A5	Isoparaffinic Products	Medium
34PXEW	Isoparaffinic Products	Medium
34WTAM	Isoparaffinic Products	Medium (C9-C12)
3B6D5K	Isoparaffinic Products	Medium
3C1W87	Isoparaffinic Products	Medium
3EDH5L	Petroleum Distillates	Medium
3H8NBC	Isoparaffinic Products	Medium
3MRPNA	Isoparaffinic Products	Medium
3PGQTY	Isoparaffinic Products	Medium
3Y6EQM	Isoparaffinic Products	Medium
416LCR	Isoparaffinic Products	Medium
47PCSB	Isoparaffinic Products	Medium
47R5QJ	Isoparaffinic Products	Median[sic]
4CZ32S	Isoparaffinic Products	Medium (C8 - C13)
4DFM29	Isoparaffinic Products	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
4FHGT2	Isoparaffinic Products	Medium
4NY6DT	Isoparaffinic Products	class 0.2
4NZ5BA	Isoparaffinic Products	Medium
4T99AN	Isoparaffinic Products	Medium
4TVNY1	Isoparaffinic Products	Medium
52WNHZ	Isoparaffinic Products	Medium
53UN3S	Isoparaffinic Products	Medium
59SNU7	Isoparaffinic Products	Medium
5H3QF8	Isoparaffinic Products	Medium
5KT33H	Isoparaffinic Products	Medium
5S63C2	Isoparaffinic Products	Medium
611FXL	Isoparaffinic Products	Medium
62AG3S	Isoparaffinic Products	Medium
6BKRQL	Isoparaffinic Products	Medium
6CT7WR	Isoparaffinic Products	Heavy
6FS57Y	Isoparaffinic Products	Medium
6FUF11	Petroleum Distillates	Medium
6G93R8	Isoparaffinic Products	Medium
6HK9NA	Isoparaffinic Products	
6KRG3Y	Isoparaffinic Products	Medium
6PZ4ED	Isoparaffinic Products	Medium
6QUNH1	Isoparaffinic Products	Medium
6RAVU8	Isoparaffinic Products	Medium
6RV9HL	Isoparaffinic Products	
6SPPLP	Isoparaffinic Products	Medium
73P3BU	Isoparaffinic Products	Heavy
766CJ6	Isoparaffinic Products	Medium
7EGUUC	Isoparaffinic Products	Medium
7FAKY6	Isoparaffinic Products	Medium
7GKH5A	Isoparaffinic Products	Medium
7HHUXV	Isoparaffinic Products	Medium
7QCTF6	Isoparaffinic Products	Medium (C8-C13)
7UCT3F	*	
865U12	Isoparaffinic Products	Medium
87UA65	Isoparaffinic Products	Medium (~C10-C13)
8FR1RD	Isoparaffinic Products	Medium
8G45DX	Isoparaffinic Products	Heavy
8JR8VP	Isoparaffinic Products	
8R4BWX	Isoparaffinic Products	Medium
94V4AX	Isoparaffinic Products	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
96ZZU1	Isoparaffinic Products	Medium
9AXDGQ	Isoparaffinic Products	Medium
9DS88E	Isoparaffinic Products	Medium
9FK8C3	Isoparaffinic Products	Medium
9FPNSP	Isoparaffinic Products	Medium
9PX5EP	Isoparaffinic Products	
9R4H53	Isoparaffinic Products	Medium
9UMHGB	Isoparaffinic Products	Medium
9XK7CS	Isoparaffinic Products	Medium
9YMTCB	Isoparaffinic Products	Medium
A76JB9	Isoparaffinic Products	Medium
ACHQSF	Isoparaffinic Products	Medium
AF47BL	Isoparaffinic Products	Medium
AJM6NV	Isoparaffinic Products	Medium
AM14TX	Isoparaffinic Products	Medium
ANHS3J	Isoparaffinic Products	Medium
AT5EYP	Isoparaffinic Products	Medium
AULZY7	Isoparaffinic Products	Medium
B45TPU	Isoparaffinic Products	Medium
B5YN5B	Isoparaffinic Products	Medium
BB18JN	Isoparaffinic Products	C10-C16
BEKN38	Isoparaffinic Products	Medium
BT4A8Z	Isoparaffinic Products	Medium
C1ENCW	Isoparaffinic Products	Medium
C2QVPH	Isoparaffinic Products	Medium
C35QHK	Isoparaffinic Products	Medium
C7EMQL	Isoparaffinic Products	Medium (C9-C12)
CBEJL6	Isoparaffinic Products	Medium to heavy
CD6LRT	Isoparaffinic Products	Isopar H, Medium
CDNUH9	Isoparaffinic Products	Medium Range
CGPVKS	Isoparaffinic Products	Medium
CJEWQE	Isoparaffinic Products	Medium
D2P9PX	Isoparaffinic Products	Medium
D714VD	Isoparaffinic Products	Medium
D89FBU	Isoparaffinic Products	Medium
D8CVQF	Isoparaffinic Products	Medium
DLZ9L3	Isoparaffinic Products	Medium
DNK1T1	Isoparaffinic Products	Medium
DS3PHK	Isoparaffinic Products	Medium
DTJ8H3	Isoparaffinic Products	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
DTTBZ9	Isoparaffinic Products	Medium
E1NY6Z	Isoparaffinic Products	Medium
E6X1GT	Isoparaffinic Products	Medium
E79PSV	Isoparaffinic Products	Medium Range
E871KF	Isoparaffinic Products	Medium
EFZ9YT	Isoparaffinic Products	Medium (C9-C12)
EQBF19	Isoparaffinic Products	Medium
ESXUBK	Normal Alkanes Products	Heavy C20H42
ETBJVG	*	
EVRNR	Isoparaffinic Products	Medium
EWVJ6R	Isoparaffinic Products	Medium
F4QCRQ	Isoparaffinic Products	Medium to Heavy (C9-C16)
F7TA2H	Isoparaffinic Products	Medium
FBAW4H	Isoparaffinic Products	0.2 C9-C13 range
FFKTFR	Isoparaffinic Products	Medium
FL9YZZ	Isoparaffinic Products	Medium
FSU13X	Isoparaffinic Products	Medium
FWU1NM	Isoparaffinic Products	Medium
FXNW43	Isoparaffinic Products	Medium
G6C2G1	Isoparaffinic Products	Medium
G6DUE9	Isoparaffinic Products	Light to Med
G77PVQ	Isoparaffinic Products	Medium
GCCE86	Isoparaffinic Products	Medium
GEQRGU	Isoparaffinic Products	Medium
GFDY9Q	Petroleum Distillates	Medium
GFJLXB	Isoparaffinic Products	Medium
GHTPSN	Isoparaffinic Products	Medium
GKUU57	Isoparaffinic Products	Medium
GUGTUS	Isoparaffinic Products	Medium
GUHLUL	Isoparaffinic Products	Medium
GXLGCN	*	
H346A3	Isoparaffinic Products	Medium
H4YWDW	Isoparaffinic Products	Medium (major)
H9Q4W5	Isoparaffinic Products	
HEKWDE	Isoparaffinic Products	Medium
HKSWG C	*	
HL8FGV	Isoparaffinic Products	Medium
HY9RUN	Isoparaffinic Products	Medium
J674LV	Isoparaffinic Products	Medium Range
J8THUL	Isoparaffinic Products	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
J995LT	Isoparaffinic Products	Medium
JDFPFT	Isoparaffinic Products	Medium
JHJ3ZJ	Isoparaffinic Products	Light to Medium Under C12
JL3LAU	Isoparaffinic Products	Medium
JP3UE4	Isoparaffinic Products	Medium
JP4MCB	Isoparaffinic Products	Medium
JVNUTW	Isoparaffinic Products	Medium
JVS98H	Isoparaffinic Products	Medium
JWWYFU	Isoparaffinic Products	Medium
K26KQA	Isoparaffinic Products	class 0.2
KGY68Y	Isoparaffinic Products	Medium
KSJGRP	Isoparaffinic Products	Medium
L8585W	Isoparaffinic Products	Heavy
L8NE65	Isoparaffinic Products	Medium range
LC3H4G	Isoparaffinic Products	Heavy
LDH5VP	Isoparaffinic Products	Medium
LJ8E5N	Isoparaffinic Products	Medium
LNVHJL	Isoparaffinic Products	Medium
LTDMM8	Isoparaffinic Products	Medium
LTSXG7	Isoparaffinic Products	Medium
LYNKE2	Isoparaffinic Products	Medium
MARAQ8	Isoparaffinic Products	
MEKFYK	Isoparaffinic Products	Medium
MGCHTY	Isoparaffinic Products	Medium
MHSMNQ	Isoparaffinic Products	Medium
MK1QH2	Isoparaffinic Products	Medium
MM3VVM	Isoparaffinic Products	Medium
MMH86E	Isoparaffinic Products	Medium
MQK86B	Isoparaffinic Products	Medium
MWP2LY	Isoparaffinic Products	Medium
MZUH33	Isoparaffinic Products	Medium range
N2XCM6	Isoparaffinic Products	Medium
N6C71H	*	
NBY5MK	Isoparaffinic Products	Medium
NLM84E	Isoparaffinic Products	
NNC2SN	Isoparaffinic Products	Medium
NNGG69	*	
NVCU9C	Isoparaffinic Products	
NW8ZJW	Isoparaffinic Products	Medium
NWNELE	Isoparaffinic Products	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
NX3NXL	Isoparaffinic Products	Medium
P71FSC	Isoparaffinic Products	
P8E5BA	Isoparaffinic Products	Medium
PAYC4K	Isoparaffinic Products	Medium
PDYPZK	Isoparaffinic Products	Medium
PEZAZ5	Isoparaffinic Products	Medium
PK9LYR	Isoparaffinic Products	Medium
PMDA8P	Isoparaffinic Products	Medium
PRBV5J	Isoparaffinic Products	Medium
Q1CKFT	Isoparaffinic Products	Medium
Q4ELFQ	Isoparaffinic Products	
QAUF6U	Isoparaffinic Products	Medium
QBXM4E	No Flam. Liquid ID'd	
QKK1BS	Isoparaffinic Products	Medium range
QLKSVS	Isoparaffinic Products	Medium
QMWXHB	Isoparaffinic Products	Medium
QNJEZG	Isoparaffinic Products	Medium
QPK1Y2	Isoparaffinic Products	Medium (C9-C12)
QQV8DB	Isoparaffinic Products	Medium C9-C11
QU7PU7	Isoparaffinic Products	Medium
QVNFwj	Isoparaffinic Products	Medium
R1VL4F	Isoparaffinic Products	Medium
R9F6V8	Isoparaffinic Products	Medium
RAHSVS	Isoparaffinic Products	Medium
RAUTCM	Isoparaffinic Products	Medium
RTDQ6F	Petroleum Distillates	Heavy
RVGKQJ	Isoparaffinic Products	Medium
RYFH2Q	Isoparaffinic Products	Medium
RZFYC8	Isoparaffinic Products	Medium
SCZBEM	Isoparaffinic Products	Medium
SMH2PU	Isoparaffinic Products	Medium
SST18Y	Isoparaffinic Products	Medium
SZTDC8	Isoparaffinic Products	Medium
T2DR8V	Isoparaffinic Products	Medium
TASF9P	Isoparaffinic Products	Med - Heavy
TNCNVB	Isoparaffinic Products	Heavy
U67FF9	Isoparaffinic Products	Medium
U7H2SB	Isoparaffinic Products	Medium
U7JNSV	Isoparaffinic Products	Medium
UG8BPJ	Isoparaffinic Products	Light

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
UH1FTS	Isoparaffinic Products	Medium
UNBH4M	Isoparaffinic Products	
UNWWTZ	Isoparaffinic Products	(Medium Range)
UYC1LG	Isoparaffinic Products	Medium
UYL43N	Isoparaffinic Products	Medium
V1BSYN	Isoparaffinic Products	Medium
VD6NUU	Isoparaffinic Products	Medium
VDM4M2	Isoparaffinic Products	Medium
VEZJAA	Isoparaffinic Products	Medium
VNR1MY	Isoparaffinic Products	Medium
VRT2PG	Isoparaffinic Products	Medium
VY8L6V	Isoparaffinic Products	Medium
VYQQPT	Isoparaffinic Products	Medium
VZ1FRK	Isoparaffinic Products	Medium
W3K4M3	Isoparaffinic Products	Medium C9-C11
WBW3GD	Isoparaffinic Products	Medium
WG3W9P	Isoparaffinic Products	Medium
WHXJNC	Isoparaffinic Products	Isopar H or K
WMT227	Isoparaffinic Products	Medium
WMT6JM	Isoparaffinic Products	Medium
WRL6TQ	Isoparaffinic Products	Medium
WV485N	Isoparaffinic Products	Medium
WWF49S	Others - Miscellaneous*	Negative
WZ5BYV	Isoparaffinic Products	Medium
X2GWPG	Isoparaffinic Products	Medium
X3FN7G	Isoparaffinic Products	Medium
XB69DE	Isoparaffinic Products	Medium
XK16Q3	Isoparaffinic Products	
XLCD2P	Isoparaffinic Products	Medium
XR2R3C	Isoparaffinic Products	Medium
XV22YC	Isoparaffinic Products	Medium
Y1NEAK	Isoparaffinic Products	
Y2ZJY4	Petroleum Distillates	Medium
Y3E8G2	Others - Miscellaneous*	Medium
Y43G8X	Naphthenic Paraffinic Products	Medium
YC4XDQ	Isoparaffinic Products	Medium
YM4286	Isoparaffinic Products	Medium
YQMM8L	Isoparaffinic Products	Medium
YR28K8	Isoparaffinic Products	Medium
YZ9SZX	Isoparaffinic Products	Medium

TABLE 1a - Item 1

WebCode	Item 1: Class	SubClass
Z1K2BV	*	
Z9RTTE	Isoparaffinic Products	Medium
Z9XYDG	Isoparaffinic Products	Medium
ZBZWP9	Isoparaffinic Products	Medium
ZD5H8G	Isoparaffinic Products	Medium
ZQ22L8	Isoparaffinic Products	Medium
ZQX2MN	Isoparaffinic Products	Medium
ZRFUWV	Isoparaffinic Products	Medium
ZYNMSL	Isoparaffinic Products	Medium

Response Summary		Total Participants: 286
<u>Item 1</u>		
Class: Isoparaffinic Products	268	
SubClass: Medium	239	
Class: Other Responses	10	

* See Conclusions (Table 4) or Additional Comments (Table 5).

Flammable Identification

Indicate the ASTM E 1618-06 class or classes for any flammable substances detected in the submitted items.

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
11J9DN	Normal Alkanes Products	Heavy Range
1D2THW	Normal Alkanes Products	Medium-Heavy (nC10-nC15)
1DJ4GJ	Normal Alkanes Products	Heavy
1EHDHD	Normal Alkanes Products	Heavy
1NCV4W	Normal Alkanes Products	Heavy
1NUCBQ	Normal Alkanes Products	Heavy (C12-C15)
1RVDD7	Normal Alkanes Products	Heavy
1UWMHH	Normal Alkanes Products	Heavy
1UXEFQ	Normal Alkanes Products	C11-C15
1ZGVDA	Normal Alkanes Products	12-14 Small amts C11, C15
24FCHE	Normal Alkanes Products	Heavy
26XQU4	Normal Alkanes Products	Heavy
28NWBFB	Normal Alkanes Products	Heavy
2D3H8R	Normal Alkanes Products	Heavy
2F9T7F	Normal Alkanes Products	Heavy
2P2781	Normal Alkanes Products	Heavy Range
2QV2QH	Normal Alkanes Products	Heavy
2XC9U2	Normal Alkanes Products	Heavy Range
2Y64AJ	Normal Alkanes Products	Heavy
2ZG2ME	Normal Alkanes Products	Heavy
321H9S	Normal Alkanes Products	Heavy
331QR7	Normal Alkanes Products	Medium
33F9A5	Normal Alkanes Products	Medium/Heavy
34PXEW	Normal Alkanes Products	Heavy
34WTAM	Normal Alkanes Products	Heavy (C12-C15)
3B6D5K	Normal Alkanes Products	Heavy
3C1W87	Normal Alkanes Products	Medium-Heavy C12-C15
3EDH5L	Normal Alkanes Products	Heavy
3H8NBC	Normal Alkanes Products	Heavy
3MRPNA	Normal Alkanes Products	Heavy
3PGQTY	Normal Alkanes Products	C11-C14

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
3Y6EQM	Normal Alkanes Products	Heavy
416LCR	Normal Alkanes Products	Heavy (C11-C15)
47PCSB	Normal Alkanes Products	Heavy
47R5QJ	Normal Alkanes Products	Heavy
4CZ32S	Normal Alkanes Products	Heavy (C8-C20)
4DFM29	Normal Alkanes Products	Heavy
4FHGT2	Normal Alkanes Products	Medium - Heavy C12-C15
4NY6DT	Normal Alkanes Products	class 3
4NZ5BA	Normal Alkanes Products	C11-C15
4T99AN	Normal Alkanes Products	Heavy
4TVNY1	Normal Alkanes Products	Heavy
52WNHZ	Normal Alkanes Products	C12-C15
53UN3S	Normal Alkanes Products	Medium to heavy C12 to C15
59SNU7	Normal Alkanes Products	Medium
5H3QF8	Normal Alkanes Products	Medium to Heavy
5KT33H	Normal Alkanes Products	Heavy
5S63C2	Normal Alkanes Products	C12-C15
611FXL	Normal Alkanes Products	Heavy
62AG3S	Normal Alkanes Products	Heavy
6BKRQL	Normal Alkanes Products	Heavy
6CT7WR	Normal Alkanes Products	Heavy
6FS57Y	Normal Alkanes Products	Heavy
6FUF11	Normal Alkanes Products	Medium
6G93R8	Normal Alkanes Products	Heavy
6HK9NA	Normal Alkanes Products	
6KRG3Y	Normal Alkanes Products	Heavy
6PZ4ED	Normal Alkanes Products	Heavy
6QUNH1	Normal Alkanes Products	C12-C15
6RAVU8	Normal Alkanes Products	Medium to heavy
6RV9HL	Normal Alkanes Products	C12-C15
6SPPLP	Normal Alkanes Products	Medium to Heavy
73P3BU	Normal Alkanes Products	Heavy
766CJ6	Normal Alkanes Products	Medium
7EGUUC	Normal Alkanes Products	Heavy

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
7FAKY6	Normal Alkanes Products	Heavy
7GKH5A	Normal Alkanes Products	Heavy
7HHUXV	Normal Alkanes Products	Heavy
7QCTF6	Normal Alkanes Products	C12 to C15 Range
7UCT3F	*	
865U12	Normal Alkanes Products	Heavy
87UA65	Normal Alkanes Products	Heavy (~C10-C14)
8FR1RD	Normal Alkanes Products	Heavy
8G45DX	Normal Alkanes Products	Heavy
8JR8VP	Normal Alkanes Products	
8R4BWX	Normal Alkanes Products	Heavy
94V4AX	Normal Alkanes Products	Heavy
96ZZU1	Normal Alkanes Products	Heavy
9AXDGQ	Normal Alkanes Products	Heavy
9DS88E	Normal Alkanes Products	Heavy
9FK8C3	Normal Alkanes Products	Heavy
9FPNSP	Normal Alkanes Products	Heavy
9PX5EP	Normal Alkanes Products	class 0.3
9R4H53	Normal Alkanes Products	Heavy
9UMHGB	Normal Alkanes Products	C12-C14
9XK7CS	Normal Alkanes Products	C12-C15
9YMTCB	Normal Alkanes Products	Heavy
A76JB9	Normal Alkanes Products	Heavy
ACHQSF	Normal Alkanes Products	Heavy
AF47BL	Normal Alkanes Products	Heavy
AJM6NV	Normal Alkanes Products	Medium to Heavy
AM14TX	Normal Alkanes Products	Heavy
ANHS3J	Normal Alkanes Products	C12-C15
AT5EYP	Normal Alkanes Products	Heavy
AULZY7	Normal Alkanes Products	Heavy (C11-C15)
B45TPU	Normal Alkanes Products	Medium to heavy (C11-C15)
B5YN5B	Normal Alkanes Products	Medium-Heavy
BB18JN	Normal Alkanes Products	C11-C15
BEKN38	Normal Alkanes Products	Heavy

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
BT4A8Z	Normal Alkanes Products	Medium to heavy
C1ENCW	Normal Alkanes Products	Medium
C2QVPH	Normal Alkanes Products	C11-C15
C35QHK	Normal Alkanes Products	Heavy
C7EMQL	Normal Alkanes Products	Heavy (C12-C15)
CBEJL6	Normal Alkanes Products	Heavy
CD6LRT	Normal Alkanes Products	M to H, C10-14
CDNUH9	Normal Alkanes Products	Medium to Heavy
CGPVKS	Normal Alkanes Products	Medium to Heavy C12-C14
CJEWQE	Normal Alkanes Products	Heavy
D2P9PX	Normal Alkanes Products	C12-C14
D714VD	Normal Alkanes Products	Heavy
D89FBU	Normal Alkanes Products	C12 to C15
D8CVQF	Normal Alkanes Products	Heavy
DLZ9L3	Normal Alkanes Products	Heavy
DNK1T1	Normal Alkanes Products	Medium
DS3PHK	Normal Alkanes Products	Heavy
DTJ8H3	Normal Alkanes Products	Heavy
DTTBZ9	Normal Alkanes Products	Heavy
E1NY6Z	Normal Alkanes Products	Heavy
E6X1GT	Normal Alkanes Products	Heavy
E79PSV	Normal Alkanes Products	Heavy Range
E871KF	Normal Alkanes Products	Heavy
EFZ9YT	Normal Alkanes Products	M-to-H (C10-C15)
EQBF19	Normal Alkanes Products	Heavy
ESXUBK	Isoparaffinic Products, Aromatic Products, Normal Alkanes Products	Isooctane, benzene C ₆ H ₆ , Medium C12-C14
ETBJVG	*	
EVRNR	Normal Alkanes Products	Heavy
EWJ6R	Normal Alkanes Products	Heavy
F4QCRQ	Normal Alkanes Products	Heavy (C12 - C17)
F7TA2H	Normal Alkanes Products	Heavy
FBAW4H	Normal Alkanes Products	0.3 C11-C15 range
FFKTR	Normal Alkanes Products	Medium

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
FL9YZZ	Normal Alkanes Products	Heavy
FSU13X	Normal Alkanes Products	Medium to Heavy
FWU1NM	Normal Alkanes Products	Heavy
FXNW43	Normal Alkanes Products	Heavy
G6C2G1	Normal Alkanes Products	Medium-Heavy (C11-C15)
G6DUE9	Normal Alkanes Products	Heavy C-12-> C-15
G77PVQ	Normal Alkanes Products	Heavy
GCCE86	Normal Alkanes Products	C10-C15
GEQRGU	Normal Alkanes Products	Heavy
GFDY9Q	Normal Alkanes Products	Medium
GFJLXB	Normal Alkanes Products	Medium
GHTPSN	Normal Alkanes Products	Heavy
GKUU57	Normal Alkanes Products	Heavy
GUGTUS	Normal Alkanes Products	Heavy
GUHLUL	Normal Alkanes Products	Heavy
GXLGCN	Normal Alkanes Products	Heavy
H346A3	Normal Alkanes Products	Medium-Heavy (C11-C15)
H4YWDW	Normal Alkanes Products	C12-C15
H9Q4W5	Normal Alkanes Products	
HEKWDE	Normal Alkanes Products	Medium
HKSWG C	Normal Alkanes Products	Heavy (C12-C15)
HL8FGV	Normal Alkanes Products	C12-C15
HY9RUN	Normal Alkanes Products	Heavy
J674LV	Normal Alkanes Products	Heavy Range
J8THUL	Normal Alkanes Products	C12-C14
J995LT	Normal Alkanes Products	Heavy
JDFPFT	Normal Alkanes Products	Heavy
JHJ3ZJ	Normal Alkanes Products	C12/C13/C14
JL3LAU	Normal Alkanes Products	C10-C15
JP3UE4	Normal Alkanes Products	Heavy
JP4MCB	Normal Alkanes Products	Heavy
JVNUTW	Normal Alkanes Products	Medium to heavy (C12-C14)
JVS98H	Normal Alkanes Products	Heavy
JWWYFU	Normal Alkanes Products	Heavy

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
K26KQA	Normal Alkanes Products	class 3
KGY68Y	Normal Alkanes Products	Heavy
KSJGRP	Normal Alkanes Products	Heavy
L8585W	Petroleum Distillates*	Heavy (De-Aromatized C11-C15)
L8NE65	Normal Alkanes Products	Heavy
LC3H4G	Normal Alkanes Products	Heavy
LDH5VP	Normal Alkanes Products	Heavy
LJ8E5N	Normal Alkanes Products	Heavy
LNVHJL	Normal Alkanes Products	Heavy
LTDMM8	Normal Alkanes Products	Heavy
LTSXG7	Normal Alkanes Products	C11-C14
LYNKE2	Normal Alkanes Products	C12-C15
MARAQ8	Normal Alkanes Products	
MEKFYK	Normal Alkanes Products	Heavy
MGCHTY	Normal Alkanes Products	C11-C15
MHSMNQ	Normal Alkanes Products	Heavy
MK1QH2	Normal Alkanes Products	Heavy
MM3VVM	Normal Alkanes Products	Heavy
MMH86E	Normal Alkanes Products	C12-C16
MQK86B	Normal Alkanes Products	Heavy
MWP2LY	Normal Alkanes Products	Heavy
MZUH33	Normal Alkanes Products	Medium- heavy range
N2XCM6	Normal Alkanes Products	Heavy
N6C71H	Normal Alkanes Products	Medium to Heavy, C11 to C15
NBY5MK	Normal Alkanes Products	Heavy
NLM84E	Normal Alkanes Products	
NNC2SN	Normal Alkanes Products	Heavy
NNGG69	Normal Alkanes Products	Heavy
NVCU9C	Normal Alkanes Products	
NW8ZJW	Normal Alkanes Products	Heavy
NWNELE	Normal Alkanes Products	Heavy
NX3NXL	Normal Alkanes Products	Heavy
P71FSC	Normal Alkanes Products	
P8E5BA	Normal Alkanes Products	Heavy

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
PAYC4K	Normal Alkanes Products	Heavy
PDYPZK	Normal Alkanes Products	Heavy
PEZAZ5	Normal Alkanes Products	C11-C15
PK9LYR	Normal Alkanes Products	Heavy
PMDA8P	Normal Alkanes Products	Heavy
PRBV5J	Normal Alkanes Products	Heavy
Q1CKFT	Normal Alkanes Products	Heavy
Q4ELFQ	Normal Alkanes Products	Heavy Range
QAUF6U	Normal Alkanes Products	Heavy
QBXM4E	Normal Alkanes Products	Med-Heavy nC12-nC14
QKK1BS	Normal Alkanes Products	Heavy range
QLKSVS	Normal Alkanes Products	Heavy
QMWXHB	Normal Alkanes Products	C11-C15
QNJEZG	Normal Alkanes Products	Heavy (C11-C15)
QPK1Y2	Normal Alkanes Products	Medium to Heavy (C11-C15)
QQV8DB	Normal Alkanes Products	Medium-Heavy C12-C15
QU7PU7	Normal Alkanes Products	Heavy
QVNFVJ	Normal Alkanes Products	Medium
R1VL4F	Normal Alkanes Products	C11-C15
R9F6V8	Normal Alkanes Products	Heavy
RAHSVS	Normal Alkanes Products	Heavy
RAUTCM	Normal Alkanes Products	Heavy
RTDQ6F	Petroleum Distillates	Heavy
RVGKQJ	Normal Alkanes Products	M-H, C10-C15
RYFH2Q	Normal Alkanes Products	Heavy
RZFYC8	Normal Alkanes Products	Medium-Heavy
SCZBEM	Normal Alkanes Products	Medium to heavy (C12-C15)
SMH2PU	Normal Alkanes Products	C11-C15
SST18Y	Normal Alkanes Products	Medium (C12-C13)
SZTDC8	Normal Alkanes Products	Heavy (C10-C15)
T2DR8V	Normal Alkanes Products	Heavy
TASF9P	Normal Alkanes Products	Heavy
TNCNVB	Normal Alkanes Products	Heavy
U67FF9	Normal Alkanes Products	Heavy

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
U7H2SB	Normal Alkanes Products	C11-C14
U7JNSV	Normal Alkanes Products	Heavy
UG8BPJ	Normal Alkanes Products	C10-C15
UH1FTS	Normal Alkanes Products	Heavy
UNBH4M	Normal Alkanes Products	
UNWWTZ	Normal Alkanes Products	(C11-C15)
UYC1LG	Normal Alkanes Products	Heavy
UYL43N	Normal Alkanes Products	Medium
V1BSYN	Normal Alkanes Products	Heavy
VD6NUU	Normal Alkanes Products	Medium- Heavy C11-C15
VDM4M2	Normal Alkanes Products	Heavy
VEZJAA	Normal Alkanes Products	Heavy
VNR1MY	Normal Alkanes Products	Heavy
VRT2PG	Normal Alkanes Products	Medium to Heavy
VY8L6V	Normal Alkanes Products	Heavy
VYQQPT	Normal Alkanes Products	Heavy
VZ1FRK	Normal Alkanes Products	C11-C15
W3K4M3	Normal Alkanes Products	Heavy C12-C15
WBW3GD	Normal Alkanes Products	Heavy
WG3W9P	Normal Alkanes Products	Heavy
WHXJNC	Normal Alkanes Products	Norpar 13
WMT227	Normal Alkanes Products	Heavy (C12-C15)
WMT6JM	Normal Alkanes Products	Heavy
WRL6TQ	Normal Alkanes Products	Heavy
WV485N	Normal Alkanes Products	Heavy
WWF49S	Normal Alkanes Products	Heavy
WZ5BYV	Normal Alkanes Products	Heavy
X2GWPG	Normal Alkanes Products	Heavy
X3FN7G	Normal Alkanes Products	Heavy
XB69DE	Normal Alkanes Products	Heavy
XK16Q3	Normal Alkanes Products	
XLCD2P	Normal Alkanes Products	Heavy
XR2R3C	Normal Alkanes Products	Heavy
XV22YC	Normal Alkanes Products	Heavy

TABLE 1b- Item 2

WebCode	Item 2: Class	SubClass
Y1NEAK	Normal Alkanes Products	
Y2ZJY4	Others - Miscellaneous	Medium (C12-C14)
Y3E8G2	Normal Alkanes Products	Medium
Y43G8X	Normal Alkanes Products	C12-C15 MED-HEA
YC4XDQ	Normal Alkanes Products	Heavy
YM4286	Normal Alkanes Products	Medium to Heavy
YQMM8L	Normal Alkanes Products	C12-C14
YR28K8	Normal Alkanes Products	C12 - C14
YZ9SZX	Normal Alkanes Products	Heavy (C12-C15)
Z1K2BV	*	
Z9RTTE	Normal Alkanes Products	Medium to Heavy
Z9XYDG	Normal Alkanes Products	Heavy
ZBZWP9	Normal Alkanes Products	C12 - C15
ZD5H8G	Normal Alkanes Products	Medium to Heavy
ZQ22L8	Normal Alkanes Products	Heavy
ZQX2MN	Normal Alkanes Products	Medium to Heavy C12 to C15
ZRFUWV	Normal Alkanes Products	Heavy
ZYNMSL	Normal Alkanes Products	Heavy

Response Summary		Total Participants: 286
<u>Item 2</u>		
Class: Normal Alkanes Products	279	
SubClass: Heavy		178
SubClass: Medium / Medium to Heavy		48
Class: Other Responses	4	

* See Conclusions (Table 4) or Additional Comments (Table 5).

Flammable Recovery Techniques

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
11J9DN	✓ Carbon/Charcoal	Static	Solvent: CS2				
1D2THW	✓ Tenax TA	Dynamic	Thermal	✓			
1DJ4GJ	✓ Carbon/Charcoal		Solvent: CS2				
1EHDHD	✓ Carbon/Charcoal	Static	Solvent: Ethyl Ether		✓	70	
1NCV4W	✓ SPME100um PDMS	Static			✓	90	
1NUCBQ	✓ Carbon/Charcoal	Static	Solvent: CS2				
1RVDD7	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
1UWMHH	✓ Carbon/Charcoal	Static	Solvent: CS2				
1UXEFQ	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	60 for 16 hrs.	
1ZGVDA	✓ Carbon/Charcoal	Dynamic	Solvent: C5		✓	80	
24FCHE	✓ Carbon/Charcoal	Static	Solvent: Diethyl Ether		✓	70	
26XQU4	✓ Carbon/Charcoal	Static	solvent: CS2/TCE				
28NWBFB	✓ Carbon/Charcoal	Static	Solvent: CS2				
2D3H8R	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
2F9T7F	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
2P2781	✓ Carbon/Charcoal	Static	Solvent: CS2				
2QV2QH	✓ SPME (Carbox/PDMS)	Static	Thermal	✓	✓	80	
2XC9U2	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	65	
2Y64AJ	✓	Static	Solvent: Pentane		✓	150	
2ZG2ME	✓ Carbon/Charcoal	Static	Solvent: CS2				
321H9S	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	70	
331QR7	✓ Tenax		Thermal		✓	100	
33F9A5	✓ Carbon/Charcoal	Static	Solvent: Diethyl Ether		✓	80	
34PXEW	✓ Carbon/Charcoal		Solvent: Pentane		✓	80	
34WTAM	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
3B6D5K	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	65	
3C1W87	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
3EDH5L	✓		Solvent: Pentane, Thermal				
3H8NBC	✓ Carbon/Charcoal	Static			✓	90	
3MRPNA	✓ Carbon/Charcoal	Static	Solvent: Pentane	✓			
3PGQTY	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	16 hours
3Y6EQM	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	64	

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
416LCR	✓ Activated Charcoal Strips, Passive Headspace Sampling		Solvent: CS2		✓	60 (16 hrs)	
47PCSB	✓ Carbon/Charcoal DFLEX	Static	Solvent: CS2				
47R5QJ					✓	100	Solvent extraction: Diethyl ether
4CZ32S	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	70	
4DFM29	✓ Carbon/Charcoal	Static	Solvent: Pentane	✓			
4FHGT2	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	
4NY6DT	✓ Carbon/Charcoal	Static	Solvent: CS2				
4NZ5BA	✓ Tenax	Static	Thermal		✓	60	
4T99AN	✓ Carbon/Charcoal	Static	Solvent: Pentane		✓	72	
4TVNY1	✓ Carbon/Charcoal	Static	Solvent: CS2				
52WNHZ	✓ Carbon/Charcoal	Static	Solvent: CS2	✓			
53UN3S	✓ Carbon/Charcoal				✓	80	
59SNU7	✓ Carbon/Charcoal	Static	Solvent: CS2				
5H3QF8	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	71	
5KT33H	✓ Carbon/Charcoal	Static	Solvent		✓	75	
5S63C2	✓ Carbon/Charcoal	Static	Solvent: CS2				
611FXL	✓ Carbon/Charcoal	Static	Solvent: Diethyl Ether		✓	80	
62AG3S	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	90	
6BKRQL	✓ Carbon/Charcoal	Static	Solvent: CS2				
6CT7WR	✓ Carbon/Charcoal	Static	Solvent: n-hexane		✓	80	
6FS57Y	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	70	
6FUF11					✓	90	
6G93R8	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide	✓	✓	60	Toluene extract for room temp.
6HK9NA	✓ Carbon/Charcoal	Dynamic	Solvent: CS2	✓	✓	85	0.5 ml (to wet charcoal)
6KRG3Y	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	70	
6PZ4ED	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	60	
6QUNH1	✓ Carbon/Charcoal	Static 80°C	Solvent: CS2				
6RAVU8	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	~60	
6RV9HL	✓ Carbon/Charcoal	Static	Solvent: Pentane				
6SPPLP	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60 (16 hrs)	
73P3BU	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
766CJ6	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	80	

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
7EGUUC	✓ Carbon/Charcoal	Static	Solvent: Dichloromethane		✓	70	
7FAKY6	✓ Carbon/Charcoal	Static					
7GKH5A	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
7HHUXV	✓ Carbon/Charcoal	Static 70°C for 20 hours	Solvent: CS2				
7QCTF6	✓ Carbon/Charcoal	Static	Solvent: Pentane		✓	60	
7UCT3F	✓ SPME		Thermal				
865U12	✓ Carbon/Charcoal		Solvent: Carbon Disulfide				
87UA65	✓ Porapak Q	Dynamic	Thermal	✓			Perkin-Elmer ATD
8FR1RD	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	80	Heated Headspace (80°C)
8G45DX					✓	80	
8JR8VP	✓ Carbon/Charcoal	Static	Solvent: CS2				
8R4BWX	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	68	
94V4AX	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
96ZZU1	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
9AXDGQ	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
9DS88E	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
9FK8C3	✓ SPME (100 μm PDMS)	Dynamic	Thermal	✓			
9FPNSP	✓ Carbon/Charcoal	Dynamic	Solvent: Carbon Disulfide	✓	✓	90	
9PX5EP	✓ Carbon/Charcoal	Static	Solvent: CS2				
9R4H53	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	
9UMHGB	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	80	
9XK7CS	✓ Carbon/Charcoal	Dynamic	Solvent: CS2		✓	95	
9YMTCB	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
A76JB9	✓ Carbon/Charcoal	Static	Solvent: CS2				
ACHQSF	✓ Carbon/Charcoal		Thermal		✓	81	
AF47BL	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	80	
AJM6NV	✓ Carbon/Charcoal	Static	Solvent: CS2 500 ml		✓	65	
AM14TX	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	65	
ANHS3J	✓ Carbon/Charcoal	Static	Solvent: Carbon disulfide		✓	70	
AT5EYP	✓ Carbon/Charcoal		Solvent: CS2		✓	80	
AULZY7	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	80	
B45TPU	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
B5YN5B	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
BB18JN	✓ SPME	Static	Thermal	✓			extraction with n-pentane*
BEKN38	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
BT4A8Z	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	~60	~60 C for ~16 hours
C1ENCW	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	66	
C2QVPH	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
C35QHK	✓ Carbon/Charcoal		Solvent: Diethyl Ether		✓	70	
C7EMQL	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
CBEJL6	✓ Carbon/Charcoal	Static			✓	80	
CD6LRT	✓ Tenax TA 60/80	Dynamic	Thermal	✓	✓	130	300C tube to -30C trap, flash 250C
CDNUH9	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	65	
CGPVKS	✓ Carbon/Charcoal	Static	Solvent: CS2				
CJEWQE	✓ Carbon/Charcoal		Solvent: C5		✓	70	
D2P9PX	✓ Carbon/Charcoal	Static	Solvent: CS2				
D714VD	✓ Carbon/Charcoal	Static	Solvent: CS2				
D89FBU	✓ Carbon/Charcoal	Static	Solvent: CS2				
D8CVQF	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	80	
DLZ9L3	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	90	
DNK1T1	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulphide		✓	80	
DS3PHK	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	70	
DTJ8H3	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
DTTBZ9	✓ Tenax	Dynamic	Thermal	✓	✓	80	Headspace: Room Temperature - Item 1; Heated - Item 2
E1NY6Z	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide, Thermal @ 70°C				
E6X1GT	✓ Carbon/Charcoal		Solvent: CS2		✓	65	
E79PSV	✓ Carbon/Charcoal	Static	Solvent: Pentane		✓	80	
E871KF	✓ Carbon/Charcoal		Solvent: CS2				
EFZ9YT	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	70	Simple headspace (@ 70C, ~30min)
EQBF19	✓ Carbon/Charcoal	Static	Solvent: CS2				
ESXUBK	✓		Solvent: n-hexane				
ETBJVG	✓ Carbon/Charcoal	Static			✓	62	
EVRNR	✓ Carbon/Charcoal	Static	solvent: CS2/TCE				
EWVJ6R	✓ Carbon/Charcoal	Static	Solvent: Pentane				
F4QCRQ					✓	90	
F7A2H	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	80	

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
FBAW4H	✓ Carbon/Charcoal	Static	Solvent: CS2				
FFKTR					✓	90	
FL9YZZ	✓ Carbon/Charcoal	Dynamic	Solvent: CS2		✓	85	0.5 ml used
FSU13X	✓ Carbon/Charcoal	Static	Solvent: Dichloromethane		✓	60	
FWU1NM	✓ Carbon/Charcoal	Static	Solvent: CS2				
FXNW43	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	80	
G6C2G1	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	
G6DUE9	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
G77PVQ	✓ SPME		Thermal		✓	50	
GCCE86	✓ Carbon/Charcoal		Solvent: Dichloromethane	✓	✓	85	
GEQRGU	✓ Carbon/Charcoal	Static			✓	60	
GFDY9Q					✓	90	
GFJLXB	✓ Carbon/Charcoal	Static	Solvent: Ether				
GHTPSN	✓ Carbon/Charcoal	Static	Solvent: CS2				
GKUU57	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	65	
GUGTUS	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	
GUHLUL	✓ Carbon/Charcoal	Static	Solvent: CS2				
GXLGCN	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
H346A3	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
H4YWDW	✓ Carbon/Charcoal	Static			✓	60	
H9Q4W5	✓ Carbon/Charcoal		Solvent: CS2		✓	60	
HEKWDE	✓ Carbon/Charcoal	Static, Dynamic	Solvent: CS2		✓	70	
HKSWG C	✓ Tenax TA	Static	Solvent: n-Pentane, Thermal		✓	110	Automated Thermal Desorption
HL8FGV	✓ Carbon/Charcoal						
HY9RUN					✓	90	
J674LV	✓ Carbon/Charcoal	Static	Solvent: CS2 and toluene	✓	✓	60	
J8THUL	✓ Carbon/Charcoal	Static	Solvent: CS2				
J995LT	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
JDFPFT	✓ Carbon/Charcoal	Static	Solvent: n-Pentane				
JHJ3ZJ	✓ Carbon/Charcoal		Solvent: CS2				
JL3LAU	✓ Carbon/Charcoal Passive	Static	Solvent: CS2		✓	~76	
JP3UE4	✓ Carbon/Charcoal	Static	Solvent: CS2				
JP4MCB	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	70	
JVNUTW	✓ Carbon/Charcoal	Static	Solvent: CS2				
JVS98H	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
JWWYFU	✓ Carbon/Charcoal	Static	Solvent: Pentane (with 5% Carbon Disulfide)		✓	60	
K26KQA	✓ Carbon/Charcoal	Static	Solvent: CS2				
KGY68Y	✓ Carbon/Charcoal	Static	Solvent: CS2				
KSJGRP	✓ Carbon/Charcoal	Static	Solvent: CS2				
L8585W							Solvent Extraction (Diethyl Ether)
L8NE65	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	75	
LC3H4G					✓	90	
LDH5VP	✓ Carbon/Charcoal	Static	Solvent: Ethyl Ether				
LJ8E5N	✓ Carbon/Charcoal	Static	Solvent: CS2				
LNVHJL	✓ Carbon/Charcoal	Static	Solvent: Diethyl Ether		✓	70	
LTDMM8	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	80	
LTSXG7	✓ Tenax		Thermal		✓	90	
LYNKE2	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	65	
MARAQ8	✓ Carbon/Charcoal	Static	Solvent: CS2				
MEKFKY	✓ Carbon/Charcoal	Static	Solvent: Diethyl Ether		✓	70	
MGCHTY	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	
MHSMNQ	✓ Carbon/Charcoal, SPME	Static	Solvent: Dichloromethane		✓	60	
MK1QH2	✓ Carbon/Charcoal	Static	Solvent: Ethyl Ether		✓	67	
MM3VVM	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide	✓			
MMH86E	✓ Carbon/Charcoal	Static	Solvent: CS2				
MQK86B	✓ Carbon/Charcoal	Static	Solvent: CS2				
MWP2LY	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	80-85	
MZUH33	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	80	
N2XCM6	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	80	
N6C71H	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
NBY5MK	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	
NLM84E	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	80	
NNC2SN	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	65	
NNGG69	✓ SPME				✓	130	
NVCU9C	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	80	
NW8ZJW	✓ Carbon/Charcoal	Static	Solvent: Dichloromethane				
NWNELE	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
NX3NXL	✓ Tenax	Static	Thermal	✓	✓	120	

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
P71FSC	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	80	
P8E5BA	✓ Carbon/Charcoal	Dynamic	Solvent: CS2				
PAYC4K	✓ Carbon/Charcoal	Static					
PDYPZK	✓ Carbon/Charcoal	Static	Solvent: CS2/Toluene				
PEZAZ5	✓ Carbon/Charcoal		Solvent: CS2				
PK9LYR	✓ Carbon/Charcoal	Static					
PMDA8P	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	
PRBV5J	✓ Carbon/Charcoal	Static	Solvent: CS2				
Q1CKFT	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	80	
Q4ELFQ	✓ Carbon/Charcoal	Dynamic	Solvent: CS2		✓	85	
QAU6U	✓ Carbon/Charcoal	Static	Solvent: CS2				
QBX4E	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	80	
QKK1BS	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
QLKSVS	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
QMWXHB	✓ Carbon/Charcoal	Static	Solvent: Diethyl Ether		✓	72	
QNJEZG	✓ Carbon/Charcoal	Static	Solvent: Diethyl Ether		✓	70	
QPK1Y2	✓ Tenax	Dynamic	Thermal		✓	100	
QQV8DB	✓ Tenax	Dynamic	Thermal		✓	120	Perkin Elmer ATD
QU7PU7	✓ Carbon/Charcoal	Static	Solvent: CS2		✓		
QVNFJ	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	66	
R1VL4F	✓ Carbon/Charcoal		Solvent: CS2				
R9F6V8	✓ Carbon/Charcoal	Static	Solvent: Pentane		✓	80	
RAHSVS	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	80	
RAUTCM	✓ Carbon/Charcoal	Static	Solvent: DCM	✓	✓	90	
RTDQ6F					✓	90	
RVGKQJ	✓ Tenax	Dynamic	Thermal	✓			
RYFH2Q	✓ Carbon/Charcoal	Static	Solvent: CS2				
RZFYC8	✓	Dynamic			✓	90	
SCZBEM	✓ Carbon/Charcoal	Static	Solvent: CS2				
SMH2PU	✓ Carbon/Charcoal		Solvent: Dichloromethane	✓	✓	85	
SST18Y	✓	Static	Solvent: Pentan[sic]		✓	90	
SZTDC8					✓	100	
T2DR8V	✓ Carbon/Charcoal	Static	Solvent: CS2				
TASF9P	✓ Carbon/Charcoal	Dynamic	Solvent: Carbon Disulfide				
TNCNVB					✓	90	
U67FF9	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	85	

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
U7H2SB	✓ Carbon/Charcoal	Static	Solvent: CS2	✓			
U7JNSV	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	80	
UG8BPJ	✓ Carbon/Charcoal	Static, Dynamic	Solvent: CS2		✓	80	
UH1FTS	✓ Tenax	Static	Thermal	✓			
UNBH4M	✓ Carbon/Charcoal	Dynamic	Solvent: Carbon Disulfide		✓	85	Headspace for alcohols analysis
UNWWTZ	✓ Carbon/Charcoal	Static	Solvent: CS2				
UYC1LG	✓ Carbon/Charcoal	Static	Solvent: CS2				
UYL43N	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
V1BSYN	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide/Pentane 1:1				
VD6NUU	✓ Carbon/Charcoal	Static	Solvent: CS2/C26		✓	~80	
VDM4M2	✓ Carbon/Charcoal	Static	Solvent: Pentane		✓	80	
VEZJAA	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	60	
VNR1MY	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
VRT2PG	✓ SPME			✓	✓	90	
VY8L6V	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	~83	
VYQQPT	✓ Carbon/Charcoal DFLEX®	Static	Solvent: Dichloromethane		✓	85	Dynamic headspace, Adsorbent Tenax, Thermal desorption ATD Perkin Elmer
VZ1FRK	✓ Tenax	Static	Thermal		✓	60	
W3K4M3	✓ Carbon/Charcoal		Solvent: CS2		✓	~60	
WBW3GD	✓ Carbon/Charcoal						
WG3W9P	✓ Carbon/Charcoal	Static	Solvent: Dichloromethane		✓	70	
WHXJNC							SPME
WMT227	✓ Carbon/Charcoal		Solvent: Pentane		✓	80	
WMT6JM	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide				
WRL6TQ	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	60	
WV485N	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	70	
WWF49S	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	65	
WZ5BYV	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide	✓			
X2GWPG	✓ Carbon/Charcoal	Static	Solvent: CS2				
X3FN7G					✓	80	
XB69DE	✓ Tenax TA		Thermal				Solvent Extraction, Hexane
XK16Q3	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	80	
XLCD2P	✓ Carbon/Charcoal	Static	Solvent: Carbon Disulfide		✓	50	

TABLE 2

WebCode	Adsorption/Elution			Headspace			Other
	Adsorbent	Static/Dynamic	Desorption	Rm Temp	Heated	°C	
XR2R3C	✓ SPME (PDMS)	Static	Thermal		✓	75	
XV22YC	✓ Carbon/Charcoal, SPME	Static	Solvent: Methylene Chloride		✓	80	
Y1NEAK	✓ Carbon/Charcoal	Dynamic	Solvent: CS2		✓	85	
Y2ZJY4	✓ Tenax		Solvent: Pentane		✓	100	
Y3E8G2	✓ Tenax	Dynamic	Thermal		✓	110	5 minutes @320 deg C
Y43G8X	✓ Carbon/Charcoal						
YC4XDQ					✓	90	
YM4286	✓ Carbon/Charcoal		Solvent: Carbon Disulfide				
YQMM8L	✓ Carbon/Charcoal	Static	Solvent: CS2				
YR28K8	✓ Carbon/Charcoal	Static	Solvent: CS2	✓			
YZ9SZX	✓ Tenax TA	Static	Thermal		✓	90	Desorption temperature: 315C
Z1K2BV	✓ Carbon/Charcoal	Static			✓	70	
Z9RTTE	✓ Carbon/Charcoal	Static	Solvent: Dichloromethane	✓			
Z9XYDG	✓ Carbon/Charcoal		Solvent: CS2				
ZBZWP9	✓ Carbon/Charcoal	Static	Solvent: CS2	✓			
ZD5H8G	✓ Carbon/Charcoal		Solvent: Carbon Disulfide				
ZQ22L8	✓ Carbon/Charcoal		Solvent: CS2				
ZQX2MN	✓ Tenax	Dynamic	Thermal	✓	✓	130	
ZRFUWV	✓ Carbon/Charcoal	Static	Solvent: CS2		✓	80	
ZYNMSL	✓ Carbon/Charcoal		Solvent: Carbon Disulfide		✓	60	

Response Summary

Participants	Adsorption/Elution	Headspace:	
		Rm Temp	Heated
286	271	28	169

Identification Techniques

TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
11J9DN		✓		4TVNY1	✓	✓		9PX5EP		✓	
1D2THW		✓		52WNHZ		✓		9R4H53		✓	
1DJ4GJ		✓		53UN3S		✓		9UMHGB		✓	
1EHDHD		✓		59SNU7		✓		9XK7CS		✓	
1NCV4W		✓		5H3QF8		✓		9YMTCB		✓	
1NUCBQ	✓	✓		5KT33H	✓	✓		A76JB9		✓	
1RVDD7		✓		5S63C2		✓		ACHQSF	✓	✓	
1UWMHH		✓		611FXL		✓		AF47BL		✓	
1UXEFQ		✓		62AG3S		✓		AJM6NV		✓	
1ZGVDA		✓		6BKRQL	✓	✓		AM14TX		✓	
24FCHE		✓		6CT7WR		✓		ANHS3J		✓	
26XQU4		✓		6FS57Y		✓		AT5EYP		✓	
28NWBFB		✓		6FUF11	✓	✓		AULZY7		✓	
2D3H8R		✓		6G93R8		✓		B45TPU		✓	
2F9T7F		✓		6HK9NA		✓		B5YN5B		✓	
2P2781		✓		6KRG3Y		✓		BB18JN		✓	
2QV2QH		✓		6PZ4ED		✓		BEKN38	✓	✓	
2XC9U2		✓		6QUNH1		✓		BT4A8Z		✓	
2Y64AJ	✓	✓		6RAVU8		✓		C1ENCW		✓	
2ZG2ME	✓	✓		6RV9HL	✓	✓		C2QVPH		✓	
321H9S		✓		6SPPLP		✓		C35QHK		✓	
331QR7		✓		73P3BU		✓		C7EMQL	✓	✓	
33F9A5	✓	✓		766CJ6		✓		CBEJL6	✓	✓	
34PXEW		✓		7EGUUC		✓		CD6LRT		✓	
34WTAM	✓	✓		7FAKY6		✓		CDNUH9		✓	
3B6D5K		✓		7GKH5A		✓		CGPVKS		✓	
3C1W87		✓		7HHUXV	✓	✓		CJEWQE		✓	
3EDH5L	✓			7QCTF6			GC-MSD	D2P9PX		✓	
3H8NBC		✓		7UCT3F			GC-FID	D714VD		✓	
3MRPNA				865U12		✓		D89FBU		✓	
3PGQTY		✓		87UA65		✓		D8CVQF		✓	
3Y6EQM		✓		8FR1RD		✓		DLZ9L3		✓	
416LCR		✓		8G45DX		✓		DNK1T1	✓		
47PCSB	✓	✓		8JR8VP		✓		DS3PHK		✓	
47R5QJ		✓		8R4BWX		✓		DTJ8H3		✓	
4CZ32S	✓	✓		94V4AX		✓		DTTBZ9		✓	
4DFM29		✓		96ZZU1		✓		E1NY6Z		✓	
4FHGT2		✓		9AXDGQ		✓		E6X1GT		✓	
4NY6DT		✓		9DS88E		✓		E79PSV		✓	
4NZ5BA	✓	✓		9FK8C3	✓	✓		E871KF		✓	
4T99AN		✓		9FPNSP		✓		EFZ9YT		✓	

TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
EQBF19		✓		K26KQA		✓		QBXM4E	✓	✓	
ESXUBK	✓			KGY68Y	✓	✓		QKK1BS		✓	
ETBJVG				KSJGRP		✓		QLKSVS		✓	
EVRNR		✓		L8585W	✓	✓		QMWXHB		✓	
EWVJ6R		✓		L8NE65		✓		QNJEZG		✓	
F4QCRQ		✓		LC3H4G		✓		QPK1Y2	✓	✓	
F7TA2H		✓		LDH5VP		✓		QQV8DB		✓	
FBAW4H		✓		LJ8E5N		✓		QU7PU7		✓	
FFKTFR		✓		LNVHJL		✓		QVNFVJ		✓	
FL9YZZ		✓		LTDMM8		✓		R1VL4F		✓	
FSU13X		✓		LTSXG7	✓	✓		R9F6V8		✓	
FWU1NM	✓	✓		LYNKE2		✓		RAHSVS		✓	
FXNW43	✓	✓		MARAQ8		✓		RAUTCM	✓	✓	
G6C2G1		✓		MEKFYK		✓		RTDQ6F	✓		
G6DUE9		✓		MGCHTY		✓		RVGKQJ	✓	✓	
G77PVQ		✓		MHSMNQ		✓		RYFH2Q		✓	
GCCE86		✓		MK1QH2		✓		RZFYC8		✓	
GEQRGU		✓		MM3VVM		✓		SCZBEM		✓	
GFDY9Q	✓	✓		MMH86E		✓		SMH2PU		✓	
GFJLXB		✓		MQK86B		✓		SST18Y	✓	✓	
GHTPSN	✓	✓		MWP2LY		✓		SZTDC8	✓	✓	
GKUU57		✓		MZUH33		✓		T2DR8V		✓	
GUGTUS		✓		N2XCM6		✓		TASF9P		✓	
GUHLUL	✓	✓		N6C71H		✓		TNCNVB	✓	✓	
GXLGCN		✓		NBY5MK		✓		U67FF9		✓	
H346A3		✓		NLM84E		✓		U7H2SB	✓	✓	
H4YWDW		✓		NNC2SN		✓		U7JNSV		✓	
H9Q4W5		✓		NNGG69	✓	✓		UG8BPJ		✓	
HEKWDE	✓	✓		NVCU9C		✓		UH1FTS	✓	✓	
HKSWG C	✓	✓		NW8ZJW		✓		UNBH4M		✓	
HL8FGV		✓		NWNELE		✓		UNWWTZ		✓	
HY9RUN		✓		NX3NXL	✓			UYC1LG		✓	
J674LV		✓		P71FSC		✓		UYL43N		✓	
J8THUL	✓			P8E5BA		✓		V1BSYN		✓	
J995LT		✓		PAYC4K		✓		VD6NUU		✓	
JDFPFT	✓	✓		PDYPZK		✓		VDM4M2		✓	
JHJ3ZJ	✓	✓		PEZAZ5		✓		VEZJAA		✓	
JL3LAU			GC/MSD	PK9LYR		✓		VNR1MY	✓	✓	
JP3UE4		✓		PMDA8P		✓		VRT2PG		✓	
JP4MCB		✓		PRBV5J		✓		VY8L6V		✓	
JVNUTW		✓		Q1CKFT		✓		VYQQPT	✓	✓	
JVS98H		✓		Q4ELFQ		✓		VZ1FRK	✓	✓	
JWWYFU		✓		QAUF6U		✓		W3K4M3	✓	✓	

TABLE 3

WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other	WebCode	GC	GC/MS	Other
WBW3GD		✓									
WG3W9P		✓									
WHXJNC		✓									
WMT227		✓									
WMT6JM	✓	✓									
WRL6TQ		✓									
WV485N	✓	✓									
WWF49S		✓									
WZ5BYV		✓									
X2GWPG		✓									
X3FN7G		✓									
XB69DE		✓									
XK16Q3		✓									
XLCD2P		✓									
XR2R3C		✓									
XV22YC		✓									
Y1NEAK		✓									
Y2ZJY4	✓										
Y3E8G2	✓		ATD								
Y43G8X		✓									
YC4XDQ	✓	✓									
YM4286		✓									
YQMM8L	✓	✓									
YR28K8		✓									
YZ9SZX		✓									
Z1K2BV											
Z9RTTE		✓									
Z9XYDG	✓	✓									
ZBZWP9	✓	✓									
ZD5H8G	✓	✓									
ZQ22L8		✓									
ZQX2MN		✓									
ZRFUWV		✓									
ZYNMSL		✓									

Response Summary		
Participants	GC	GC/MS
286	60	272

Conclusions

TABLE 4

WebCode	Conclusions
11J9DN	Item 1 and Item 2 were analyzed for the presence of ignitable liquids by gas chromatography mass spectrometry (GC-MS). Item 1 contained a medium range isoparaffinic product. Some examples of medium range isoparaffinic products include some charcoal starters, some paint thinners, and some lamp oils. A medium range isoparaffinic product is an ignitable liquid. Item 2 contained a heavy range normal alkane product. Some examples of a heavy range normal alkane product include some candle oils, some copier toners, and some insecticide vehicles. A heavy range normal alkane product is an ignitable liquid. No ignitable liquids were identified in the control bag.
1D2THW	Analysis of the control bag confirmed that no cross contamination of exhibits occurred during transportation or storage. Item 1 contains an isoparaffinic product (a medium n-alkane product, class 0.2 according to the ASTM classification system). Examples of such products include charcoal lighter, solvents or feedstock. Item 2 contains a normal n-alkane medium to heavy (nC10-nC15) range product (class 0.3 according to the ASTM classification system). Examples of such products include solvents, feedstock and lamp oil. The two cloths from the suspected incendiary devices (Items 1 and 2) contain chemically ignitable substances that cannot be derived from each other through mixing or natural processes such as evaporation.
1DJ4GJ	A residue of a medium isoparaffinic product was detected in Item 1. Examples of a medium isoparaffinic product are some charcoal starters, some paint thinners, some specialty cleaners, and some copier toners. A residue of a heavy normal alkane product was detected in Item 2. Examples of a heavy normal alkane product are some candle oils, carbonless forms, and some copier toners. No ignitable liquids were detected in Item CB-1.
1EHDHD	Analysis of Item 1 detected the presence of a medium range isoparaffinic product (examples: some charcoal starters, some paint thinners, etc.). Analysis of Item 2 detected the presence of a heavy range normal alkane product (examples: some candle oils, some copier toners, etc.).
1NCV4W	Gas chromatographic analysis on Item 1 revealed the presence of Medium Isoparaffinic products. Gas chromatographic analysis on Item 2 revealed the presence of Heavy Normal-Alkanes products.
1NUCBQ	Item 1 was found to contain a medium isoparaffinic product. Examples include: some charcoal starters, some paint thinners, some copier toners. Item 2 was found to contain a heavy normal-alkane product. Examples include: some candle oils, NCR papers, some copier toners. Item 3 was used as a control.
1RVDD7	Items 1, 2 and the control bag were extracted by passive adsorption/elution and analyzed by gas chromatography-mass spectrometry. Item 1. An isoparaffinic product was identified in the bag. Examples of isoparaffinic products are some charcoal starters, paint thinners and copier toners. Item 2. A normal alkane product was identified in the bag. Examples of normal alkane products are some candle oils and copier toners. The control bag was analyzed for comparison purposes only.
1UWMHH	Item 1 was determined to contain a medium Isoparaffinic Product ignitable liquid. Examples of which include some charcoal starters, some paint thinners, and some copier toners. Item 2 was determined to contain a Heavy Normal Alkane Product ignitable liquid. Examples of which include some candle oils, carbonless forms, and some copier toners.
1UXEFQ	Item #2 contains a normal alkane. Some examples of a normal alkane are some candle oils, copier toners, and carbonless forms. No ignitable liquids were detected in Items #1 and #3. A negative result means that the laboratory did not identify ignitable liquids in the submitted samples.
1ZGVDA	GC/MS analysis of submission #02 (Item 2) revealed the presence of medium boiling range organic cpds consistent w/ n-alkanes. GC/MS analysis of submission #01 (Item 1) failed to reveal the presence of a flammable liquid.
24FCHE	Analysis of Item 1 detected the presence of a medium-range isoparaffinic product (examples: some charcoal starters, some paint thinners, some copier toners, etc.). Analysis of Item 2 detected the presence of a heavy-range normal alkane product (examples: some candle oils, some copier toners, carbonless forms, etc.).
26XQU4	Item 1: Analysis revealed the presence of a medium range isoparaffinic product; examples of which include some charcoal starters, paint thinners and cleaning solvents. Item 2: Analysis reveal the presence

TABLE 4

WebCode	Conclusions
	of a heavy normal alkane product; examples of which include some candle oils and some specialty solvents. Item 3: No ignitable liquids were detected.
28NWBFB	Item 001 contains a medium isoparaffinic product. Examples of commercial products that may contain a medium isoparaffinic include, but are not limited to, some charcoal starters and some paint thinners. Item 002 contains a heavy normal-alkane product. Examples of commercial products that may contain a heavy normal-alkane product include, but are not limited to, some candle and lamp oils. No recognizable liquid was identified in the control bag.
2D3H8R	Item #1: An ignitable liquid residue consistent with a medium isoparaffinic product was identified. Examples of a medium isoparaffinic product include some charcoal starters, copier fluids, lamp oils, solvents for insecticides and polishes, paint thinners and some camping fuels. Item #2: An ignitable liquid residue consistent with a heavy normal alkane product was identified. Examples of a heavy normal alkane product include candle oils, copier toners and carbonless forms.
2F9T7F	Item 1 was determined to contain a medium Isoparaffinic Product Ignitable liquid. Examples of which include some charcoal starters, some paint thinners and some copier toners. Item 2 was determined to contain a Heavy Normal-Alkane Product Ignitable Liquid. Examples of which include some candle oils, carbonless forms and some copier toners.
2P2781	An isoparaffinic product in the medium range was identified in Item #1, examples of which include some chemical starters, some paint thinners and some copier toners. A normal alkane product in the heavy range was identified in Item #2, examples of which include some candle oils, carbonless forms and some copier toners. There were no ignitable liquids identified in the control sample.
2QV2QH	Item 1: Ignitable liquid identified as medium isoparaffinic products. Item 2: Ignitable liquid identified as heavy n-alkanes products.
2XC9U2	An isoparaffinic product in the medium range was identified in Item #1. Examples of this include some charcoal starters, some paint thinners, and some copier toners. A normal alkane product in the heavy range was identified in Item #2. Examples of this include some candle oils, carbonless forms, and some copier toners. There were no ignitable liquids identified in the control sample.
2Y64AJ	No ignitable liquids were identified in the control bags[sic]. Item 1, a medium isoparaffinic product was identified. Examples of this type product are some charcoal starters, some paint thinners and some copier toners. Item 2: a heavy normal-alkane product was identified. Examples of this type product are some candle oils, some copier toners and carbonless forms.
2ZG2ME	No ignitable fluid was identified in the control bag. A medium isoparaffinic product was identified in Item 1. Examples of this class include but are not limited to some charcoal starters and some paint thinners. A heavy normal alkane product was identified in Item 2. Examples of this class include but are not limited to some candle oils, carbonless forms and some copier toners.
321H9S	Analysis of Ex. 2 (Item 1) revealed the presence of a med. Isoparaffinic product. Examples of med. Isopar. Prod. include, but are not limited to, some charcoal starters, some paint thinners, some copier toners, and some specialty solvents. Analysis of Ex. 3 (Item 2) revealed the presence of a heavy n-alkane product. Examples of heavy n-alkane prod. include, but are not limited to, some candle oils, carbonless forms, + copier toners.
331QR7	Item 1: A vapour composed of a series of iso paraffinic[sic] hydrocarbons was detected on this item. The vapour present on Item 1 was not a type commonly encountered in this laboratory. Item 2: A vapour composed of a series of normal paraffinic[sic] hydrocarbons, from C10 to C14, was detected on this item, examples of commercially available normal paraffin liquids include "lamp oils". Control Bag: No commonly occurring[sic] flammable liquids or their residues were detected in the vapour analysed from the control bag submitted with Items 1 and 2.
33F9A5	A8-3761A-002A contains a medium range isoparaffinic product of range C9 to C12. A8-3761A-003A contains a normal alkane product of range C12 to C14. This normal alkane product is classified as a medium to heavy normal alkane product.
34PXEW	Examination of Item 1 revealed the presence of a medium petroleum product, examples of which include but are not limited to odorless charcoal starter fluid. Examination of Item 2 revealed the presence of a heavy petroleum product, examples of which include but are not limited to lamp oils.

TABLE 4

WebCode	Conclusions
34WTAM	Item 1 was found to contain a medium isoparaffinic product. Examples include: some charcoal lighter fluids, some paint thinners, and copier toners. Item 2 was found to contain a heavy normal-alkane product. Examples include: some lamp and candle oils, NCR papers and some copier toners. Item 3 was submitted as a control.
3B6D5K	Item #1 contains a isoparaffinic[sic] product. Item #2 contains a normal alkane product. No ignitable liquid was detected in Item #3.
3C1W87	An isoparaffinic product in the medium petroleum range was detected within the contents of Item 1. Examples of isoparaffinic products in the medium petroleum range included some charcoal starters, some paint thinners, and some copier toners. A normal alkane product in the medium to heavy petroleum range was detected within the contents of Item 2. Examples of normal alkane products in the medium to heavy petroleum range included some candle oils, some lamp oils, and some copier toners. No ignitable liquid was detected within the contents of Item Control bag.
3EDH5L	Item 1 - The class is Petroleum Distillates. The subclass is medium. The flammable could be solvent or some paint thinner. Item 2 - n alkanes from C10 to C15 are found. The class is normal alkanes products. The subclass is heavy. The flammable could be mixture of alkanes or lamp oils.
3H8NBC	The control was sampled and tested utilizing gas chromatography-mass spectrometry. No ignitable liquids were detected. The contents of the control bag were visually examined and consisted [sic] one piece of white cloth approximately two inches by two inches in size. Item 1 was sampled and tested utilizing gas chromatography-mass spectrometry and it was determined to contain isoparaffinic product(s). Examples of isoparaffinic products include some paint thinners, some charcoal lighters and some copier toners. The contents of Item 1 were visually examined and consisted of one piece of white cloth approximately two inches by two inches in size. Item 2 was sampled and tested utilizing gas chromatography-mass spectrometry and it was determined to contain normal alkane product(s). Examples of normal alkane products include some copier toners, some candle oils and some carbonless forms. The contents of Item 2 were visually examined and consisted of one piece of white cloth approximately two inches by two inches in size.
3MRPNA	Items received as "control bag, Item 1 and Item 2" were analyzed using Gas Chromatography Mass Spectrometry. No ignitable liquids were detected in the Item marked "control bag". An isoparaffinic product was detected in "Item 1". Examples of isoparaffinic products in the medium range include some charcoal starters and paint thinners. A normal alkane product was detected in "Item 2". Examples of normal alkane products in the heavy range include some candle oils and some copier toners.
3PGQTY	Item 1 contained an ignitable liquid residue in the isoparaffinic class, an example of this is Charcoal Lighter Fluid. Item 2 contained an ignitable liquid residue in the normal alkane class, an example of this is Lamp Oil. Item 3, labeled as the control, contained no ignitable liquid residues.
3Y6EQM	Analysis conducted on Item 1 disclosed the presence of an ignitable liquid from the medium isoparaffinic products class. Examples of this class include some charcoal starters, some paint thinners, and some copier toners. Analysis conducted on Item 2 disclosed the presence of an ignitable liquid from the heavy normal-alkanes products class. Examples of this class include some candle oils, carbonless forms, and some copier toners. Analyses conducted on Items 1 and 2 disclosed the presence of trace amounts of compounds in the light range consistent with those found in the control bag and cloth.
416LCR	A medium isoparaffinic product was detected in Item 1, uses of which include, but are not limited to, some charcoal starters, some paint thinners and some copier toners. Medium isoparaffinic products are ignitable liquids and could act as a fire accelerant. A heavy normal-alkane product was detected in Item 2, uses of which include, but are not limited to, some candle oils, carbonless copy forms and some copier toners. Heavy normal-alkane products are ignitable liquids and could act as a fire accelerant. No ignitable liquid, or its residue, was detected in the control sample.
47PCSB	Examination of Item #1 revealed the presence of an isoparaffinic product. Isoparaffinic products include some charcoal starters and some paint thinners. Examination of Item #2 revealed the presence of a N-Alkane product. N-Alkane products include some candle oils and some copier toners. Examination of the control bag failed to show accelerants.
47R5QJ	We found the following results: Item 1: C9 to C12 isoparaffinic products on the piece of cloth found in the attic. Item 2: C10 to C15 normal alkanes products on the piece of cloth found in the kitchen.

TABLE 4

WebCode	Conclusions
	Control Bag: no ignitable liquid residue detected in the control bag.
4CZ32S	Flammable liquids were detected in the sample labeled, Item 1. The content were identified as isoparaffins, C9-C12. Normally, the identification would also refer to a commercial product, but products containing this substance are not commercially available in [Country], as far as we could determine. Flammable liquids were also detected in the sample labeled, Item 2. The content were identified as normal alkanes, C11-C15, which are typical ingredient in commercially available lamp oil or charcoal starters. No flammable liquids were detected in the sample labeled, control bag.
4DFM29	Item 1: One sealed nylon evidence bag holding one square of white terry cloth. A medium-range isoparaffinic product was detected in Item 1. Examples of medium-range isoparaffinic products include some charcoal starters, some paint thinners, and some copier toners. Item 2: One sealed nylon evidence bag containing one square of white terry cloth. A heavy-range normal alkane product was detected in Item 2. Examples of heavy-range normal alkane products include some candle oils and some copier toners. "Control": One sealed nylon evidence bag containing one square of white terry cloth. No ignitable liquids were detected in this item.
4FHGT2	Control bag: No ignitable liquids detected. This data was used for comparison purposes only. Item 1: The sample contains a medium isoparaffinic product. Examples of products within this classification include some charcoal starters, some paint thinners, and some specialty solvents. Item 2: The sample contains a medium-heavy (C12-C15) normal alkane product. Examples of products within this classification include some candle oils and some copier toners.
4NY6DT	[No Conclusions Reported.]
4NZ5BA	Item 1: A medium volatility hydrocarbon fraction, consisting predominantly of isoparaffinic hydrocarbons, was detected in the contents of this item. Item 2: A medium to low volatility hydrocarbon fraction, consisting of C11-C15 normal-alkane hydrocarbons, was detected in the contents of this item. Control: The contents of this item were examined for the presence of ignitable liquid residues and none were detected.
4T99AN	1.1) A medium (C8-C13) isoparaffinic product was detected in the sample. 1.2) A heavy (C9-C20+) n-alkane product was detected in the sample. 1.3) No ignitable liquid residue was detected in the sample.
4TVNY1	Item 1 was found to contain a volatile mixture consistent with a medium range petroleum product. Examples of such a product include some charcoal starters, some paint thinners and some copier toners. Item 2 was found to contain a volatile mixture consistent with a heavy range petroleum product. Examples of such a product include some lamp oils and some copier toners. No common ignitable liquid residues were detected in the control sample.
52WNHZ	Item 1: The sample contains a Medium Range Isoparaffinic Product. Potential product sources include some charcoal starters, some paint thinners and some copier toners. Item 2: The sample contains a Normal Alkane Product within the C12-C15 Hydrocarbon Range. Potential product sources include some lamp oils, some candle oils and some copier toners. Control: No ignitable liquids were detected.
53UN3S	Analysis of Item no 1 allows the identification of a medium isoparaffinic products ranging from C9 to C11. Analysis of Item no 2 allows the identification of a medium to heavy ranging from C12 to C15 n alkan[sic] products. These two compounds don't belong to the same family and therefore are different from each other.
59SNU7	Item 1 contains a medium range isoparaffinic ignitable liquid residue. Item 2 contains a medium range normal alkane ignitable liquid residue.
5H3QF8	An Isopar Class ignitable liquid in the medium range was detected in one of the bags containing terrycloth (Item 1). Examples of isopars include some charcoal starters, some copier fluids, some lamp oils, and some camping fuels. An n-Alkane Class ignitable liquid in the medium to heavy range was detected in one of the bags containing terrycloth (Item 2). Examples of volatiles in the n-alkanes class include some lamp oils, some solvents and some copier tones[sic]. No ignitable liquids were detected in the bag containing a control sample of terrycloth (Item 3).
5KT33H	Item 1 contained an isoparaffinic product within the hydrocarbon range C8 - C11. This is an ignitable

TABLE 4

WebCode	Conclusions
	liquid and typical substances in this classification are some charcoal lighters, paint thinners and copier toners. Item 2 contained a normal alkane product within the carbon range C11 - C16. This is an ignitable liquid and typical products in this classification are some candle oils, copier toners, solvents and lamp oils. The control item did not contain any ignitable liquid.
5S63C2	Analysis conducted on the mentioned evidence revealed the presence of a medium isoparaffinic product in Item #1; examples include some charcoal starters, some paint thinners, and some copier toners. Analysis of Item #2 revealed the presence of a medium-heavy normal alkane product; examples include some candle oils, carbonless forms and copier toners. Analysis of Item #3 confirmed that the nylon bags nor the terry cloth substrate interfere with analysis.
611FXL	Item #1 exhibits components having retention times and mass spectra which meet the ASTM criteria for a medium Isoparaffinic Product compounds elute between C9 n-nonane and C12 n-dodecane. Item #2 exhibits components having retention times and mass spectra which meet the ASTM criteria for a Heavy Normal Alkane Product compounds elute between C11 n-undecane and C15 Pentadecane.
62AG3S	Item #1: Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. Item #2: Normal alkane product, examples of which are some brands of lamp oils, copier toners, and speciality[sic] solvents. Item #3 (Control Bag): No flammable or combustible liquids were found. Used in conjunction with Items #1 and #2.
6BKRQL	The control sample, Item 1 [sic], was used for comparison purposes. No ignitable liquids were detected. A medium isoparaffinic product was identified in Item 2[sic]. Examples of this type of ignitable liquid would include odorless paint thinners and some charcoal lighter fluids. A heavy alkane product was identified in Item 3[sic]. Examples of this type of ignitable liquid would include some lamp oils.
6CT7WR	[No Conclusions Reported.]
6FS57Y	A Medium Isoparaffinic Product was detected in Item 1, the suspected incendiary device reportedly recovered from the Attic. Medium Isoparaffinic Products are considered ignitable liquids. Examples of Medium Isoparaffinic Products include, but are not limited to some charcoal starters, some paint thinners and some copier toners. A Heavy Normal Alkane Product was detected in Item 2, the suspected incendiary device reportedly recovered from the kitchen. Heavy Normal Alkane Products are considered ignitable liquids. Examples of Heavy Normal Alkane Products include, but are not limited to some candle oils, carbonless forms and copier toners.
6FUF11	On examination and analysis, I found: Item 1 to contain a medium petroleum distillates which can be found in some charcoal starters, paint thinner and dry cleaning solvents. Item 2 to contain normal alkanes (C12-C14) which can be found in some candle oils or copier toners.
6G93R8	Item 1) Heat sealed fire debris bag containing a square of white cloth. Examination reveals the presence of a Medium Range ignitable liquid residue in the Isoparaffinic Products Class. Refer to the attached Ignitable Liquid Classification System. Item 2) Heat sealed fire debris bag containing a square of white cloth. Examination reveals the presence of a Heavy Range Ignitable liquid residue in the Normal Alkane Products Class. Refer to the attached Ignitable Liquid Classification System. Control Bag) Heat sealed fire debris bag containing a square of white cloth. No ignitable liquid residue as defined by the attached Ignitable Liquid Classification System was detected.
6HK9NA	Ex1: Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. Ex2: Normal alkane product, examples of which are some lamp oils, some solvents for insecticides and polishes. Ex3: "Control Substrate", used in conjunction with Exhibits 1 and 2.
6KRG3Y	A medium isoparaffinic product was detected in Item #1. Medium isoparaffinic products are ignitable liquids. Examples of such products include, but are not limited to, some charcoal starters, some paint thinners, and some dry cleaning solvents. A heavy normal alkane product was detected in Item #2. Heavy normal alkane products are ignitable liquids. Examples of such products include, but are not limited to, some candle oils, carbonless forms, and some copier toners. The control bag with substrate was analyzed for comparison purposes only.
6PZ4ED	Analysis of Item 1 revealed the presence of an isoparaffinic product. Examples of this class include some charcoal starters, some paint thinners and some copier toners. Analysis of Item 2 revealed the presence of a normal alkane product. Examples of this class include some candle oils & some copier toners.

TABLE 4

WebCode	Conclusions
6QUNH1	Analysis conducted on the mentioned evidence revealed the presence of a medium isoparaffinic product in Item #1; examples include some charcoal starters, some paint thinners, and some copier toners. Analysis conducted on the mentioned evidence revealed the presence of a medium-heavy normal alkanes product in Item #2; examples include some candle oils, some copier toners and carbonless forms. Analysis of Item #3 confirmed that the plastic bag nor the terry cloth interfered with the analysis.
6RAVU8	An isoparaffinic product in the medium range was detected from Item 1. Examples of isoparaffinic products in the medium range include some charcoal starters, some paint thinners and some copier toners. A normal alkane product in the medium to heavy range was detected from Item 2. Examples of a normal alkane product in the medium to heavy range include some candle oils and copier toners. No ignitable liquid was detected from Item 3.
6RV9HL	#1 The presence of an isoparaffinic product was chromatographically detected. Examples of an isoparaffinic product include some charcoal starters, some copier fluids, some lamp oils and some solvents from insecticides and polishes. #2 N-alkanes in the range of C12-C15 were chromatographically detected.
6SPPLP	A medium isoparaffinic product was detected in Exhibit 1, uses of which include, but are not limited to, some charcoal starters, some paint thinners and some copier toners. Medium isoparaffinic products are ignitable liquids and could act as a fire accelerant. A medium to heavy normal-alkane product was detected in Exhibit 2, uses of which include, but are not limited to, some candle oils and some copier toners. Medium to heavy normal-alkane products are ignitable liquids and could act as a fire accelerant. No ignitable liquid, or its residue, was detected in the control bag.
73P3BU	Control Bag - No ignitable liquids were detected. Item 1 - Sample contains an ignitable liquid residue in the miscellaneous class. Some examples of this class are charcoal starters and solvents. Item 2 - Sample contains an ignitable liquid residue in the miscellaneous class. Some examples of this class are lamp oils and solvents.
766CJ6	Item one contains an ignitable petroleum refined product/liquid with isoparaffinic characteristics. Such products are commonly marketed as fuels (such as charcoal starters or lamp oils), as solvents (such as in insecticides) and as specialty solvents. Item 2 contains an ignitable petroleum refined liquid with normal alkane characteristics. Such products may be marketed as fuels (such as lamp oils), as solvents (such as for insecticides) and in other specialty products. The product isolated from Item 2 is dissimilar to that recovered from Item 1. No ignitable liquid residues were identified in Item 3.
7EGUUC	Item 1 was found to contain a medium isoparaffinic product. Examples may include but are not limited to some charcoal starters, some paint thinners, and some copier toners. Item 2 was found to contain a heavy n-alkane product. Examples may include but are not limited to some candle oils, some NCR papers, and some copier toners. No ignitable liquids were identified in Item 3 (Control Bag).
7FAKY6	Item 1 was determined to contain a Medium Isoparaffinic Products ASTM Class ignitable liquid. Example of this ASTM class are some charcoal starters and some paint thinners. Item 2 was determined to contain a Heavy Normal Alkanes Products ASTM Class ignitable liquid. Example of this ASTM class are some candle oils and some copier toners.
7GKH5A	Item 1 contained a medium isoparaffinic product, an ignitable liquid. Examples of medium isoparaffinic products include, but are not limited to, some odorless charcoal lighter fluids and some odorless paint thinners. Item 2 contained a heavy normal alkane product, an ignitable liquid. Example of heavy normal alkane products include, but are not limited to, some ultra pure lamp oils and some copier toners. No recognizable ignitable liquid was identified in the Control Bag.
7HHUXV	Item 1 contained a volatile mixture which was consistent with an isoparaffinic product. Examples of such products are; some charcoal starters, some paint thinners, some specialty solvents. Item 2 contained a volatile mixture which was consistent with a normal alkane product. Examples of such products are; some candle oils, copier toners. No common ignitable liquids were found in the control bag with terrycloth substrate, which was submitted as a control sample.
7QCTF6	Analysis indicates the presence of an isoparaffinic ignitable liquid residue (in the medium product range) in Item 1. This classification would include, but not be limited to, some charcoal starters, some paint thinners and some copier toners. Analysis indicates the presence of a normal alkane ignitable liquid

TABLE 4

WebCode	Conclusions
	residue (in the range C12 to C15) in Item 2. This alkane range does not fit into the ASTM E 1618-06 ignitable liquid classification scheme for sub classes as listed therefore the n-alkane range detected is given in this report. This classification would include, but not be limited to, some candle and lamp oils and some copier toners. Analysis of the control sample does not indicate the presence of an ignitable liquid residue. Ignitable liquid residues found in Items 1 and 2 are not consistent with each other.
7UCT3F	Item 1 contained a product consistent with a medium n-alkane range nevertheless the use of a FID detector can not exclude other classification possibilities. Item 2 contained a product which yielded just three chromatographic peaks consistent with C-12, C13 and C14 n-alkanes based on FID alone. It is worth to know that the bag containing Item 2 arrived to this lab not inflated, so we can not exclude the possibility that some volatile portion of the sample have escaped from the bag.
865U12	1.1 - A medium isoparaffinic product found. Some examples of medium isoparaffinic products are some charcoal starters, some paint thinners, + some copier toners. 1.2 - A heavy N-Alkane product found. Some examples of heavy normal alkane products are some candle oils carbonless forms and some copier toners. 1.3 - No flammable or combustible liquids were found.
87UA65	Residues of a flammable liquid containing branched chain alkanes were detected in Item 1. Residues of a flammable liquid containing normal alkanes were detected in Item 2.
8FR1RD	Item #1: The volatile contents were recovered using heated headspace recovery method and an[sic] 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. some charcoal lighter fluids, some paint thinners, and some specialty solvents) was detected. Item #2: The volatile contents were recovered using heated headspace recovery method and an[sic] 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 heavy petroleum product (e.g. some lamp oils and some specialty solvents) was detected. Item #3: The volatile contents were recovered using heated headspace recovery method and an[sic] 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. This item was analyzed as a comparison sample.
8G45DX	Heavy isoparaffinic products was detected in Item 1 and heavy normal alkane products was detected in Item 2.
8JR8VP	It was determined utilizing gas chromatography/mass spectrometry analysis that Item 1 exhibited the presence of an isoparaffinic class of ignitable liquid and Item 2 exhibited the presence of a normal alkane class of ignitable liquid.
8R4BWX	Item 1 was examined for the presence of ignitable liquid residues. A Medium Isoparaffinic Product was detected. Examples of a Medium Isoparaffinic Product are some charcoal starters and some paint thinners. Item 2 was examined for the presence of ignitable liquid residues. A Heavy Normal Alkane Product was detected. Examples of a Heavy Normal Alkane Product are some candle oils, carbonless forms, and copier toners.
94V4AX	Items 1, 2 and control were extracted by passive adsorption/elution and analyzed by gas chromatography-mass spectrometry. Item control) No ignitable liquids were identified. Item 1) A mixture of medium isoparaffinic compounds was identified in the fire debris bag. Examples of medium isoparaffin containing products are specialty solvents, charcoal starters and paint thinners. Item 2. A series of heavy normal alkanes were identified in the fire debris bag. Examples of heavy normal alkane containing products are candle oils, copier toners and carbonless forms.
96ZZU1	A medium isoparaffinic product was identified in Item 1. Medium isoparaffinic products include, but are not limited to, some brands of charcoal starters, paint thinners, and copier toners. A heavy normal alkanes product was identified in Item 2. Heavy normal alkanes products include, but are not limited to, some brands of copier toners, candle oils, and carbonless forms.
9AXDGQ	Item 1 contained a medium isoparaffinic product, in the range of C7-C12. Examples of a medium isoparaffinic product include some charcoal starters, some paint thinners and some copier toners. Item 2 contained a heavy normal alkane product, in the range of C12-C15. Examples of a heavy normal alkane product include some candle oils, carbonless forms and copier toners. Control bag with terry

TABLE 4

WebCode	Conclusions
	cloth substrate was examined a[sic] control.
9DS88E	Within the limits of applied methodology and after comparison with the results of the provided control sample: the presence of a medium isoparaffinic product was detected in the sample Item 1; the presence of a heavy n-alkanes product was detected in the sample Item 2.
9FK8C3	The samples were analyzed using gas chromatography/mass spectrometry. Isoparaffinic products in the medium range were identified in Item 1 and normal alkanes products in the heavy range were identified in Item 2.
9FPNSP	Item #1: Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. Item #2: Normal alkanes product, examples of which are some candle oils, some solvents for insecticides, some copier toners, and specialty products. Control Item: No flammable or combustible liquids were found. Used in conjunction with Items #1 and #2.
9PX5EP	Control bag is ok. Item 1 is different of Item 2.[sic]
9R4H53	1.1 A medium isoparaffinic product found. Some examples of medium isoparaffinic products are some charcoal starters, some paint thinners, and some copier toners. 1.2 A heavy normal alkane product found. Some examples of heavy normal alkane products are some candle oils, carbonless forms and some copier toners. 1.3 No flammable or combustible liquids were found.
9UMHGB	Results: A foreign ignitable liquid identified as a medium isoparaffinic product was isolated on Item one (1), white cloth. Some examples of medium isoparaffinic products are, but are not limited to, some charcoal lighter fluids, some paint thinners, and some copier toners. A foreign ignitable liquid identified as a normal alkane product (in the C12 to C14 carbon range) was isolated on Item two (2), white cloth. Some examples of normal alkane products are, but are not limited to, some liquid candle oils, carbonless copy forms, and some copier toners. Very low levels of volatile chemical residues were isolated on the control, Item three (3) and on the blank can. The volatile chemical residues isolated on Item three (3) and the blank can do not compare favorably to current laboratory standards of ignitable liquids. Conclusions: Within a reasonable degree of scientific certainty and based upon education, training, experience and based upon the samples that were submitted, the [Laboratory] holds the following opinions: A foreign ignitable liquid was isolated on Item one (1). The foreign ignitable liquid isolated on Item one (1) has been identified as a medium isoparaffinic product. A foreign ignitable liquid was isolated on Item two (2). The foreign ignitable liquid isolated on Item two (2) has been identified as a normal alkane product (C12-C14). No foreign ignitable liquids were isolated on Item three (3).
9XK7CS	1 - Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. No alcohol was found. 2 - Normal Alkane product, examples of which are copier toners and some candle oils. No alcohol was found. Control - used for comparison to Exhibits 1 and 2.
9YMTCB	Item #1 - A medium isoparaffinic product was identified. Examples include some paint thinners, copier toners and specialty solvents. Item #2 - A heavy n-alkane product was identified. Examples include hexadecane, heptadecane, Octadecane, some candle oils and carbonless forms. Item - Control Bag - No ignitable liquids or residues were detected.
A76JB9	Item #1 Containing Q1: Medium range isoparaffinic product. Example: Medium range isoparaffinic products include some lamp oils, some charcoal lighter fluids and some odorless mineral spirits. Item #2 Containing Q2: Heavy range n-alkane product. Example: Heavy range n-alkane products include some candle oils, some carbonless forms and some copier toners. K1: Submitted for comparison.
ACHQSF	No ignitable liquids were detected in the "control" sample. A medium petroleum distillate was identified in Item #1, "attic", some examples of medium petroleum distillates would include some brands of paint thinners, charcoal starters, and mineral spirits. A Normal Alkane Product was identified in Item #2, "kitchen", some examples of normal alkane products would include lamp oils and lamp fuels.
AF47BL	Gas chromatograph mass spectral analysis showed the presence of a medium petroleum product in Item #1 and heavy petroleum product in Item #2.
AJM6NV	Item 1 described as "Suspected Incendiary Device from the attic" is positive for a Medium Isoparaffinic petroleum product. Examples include but are not limited to some charcoal starters, some paint thinners and some copier toners. Item 2 described as "Suspected Incendiary Device from the kitchen" is positive

TABLE 4

WebCode	Conclusions
	for a Medium to Heavy Normal Alkane Product. Examples include but are not limited to some candle oils, some carbonless forms and some copier toners.
AM14TX	#1: Cloth, suspected incendiary device from the attic. Analysis indicates the presence of a medium isoparaffin product. #2: Cloth, suspected incendiary device from the kitchen. Analysis indicates the presence of a heavy normal alkane product. Control: Cloth. No ignitable liquids were detected. 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. Ignitable liquid classification based on ASTM E 1218-06.
ANH53J	A medium isoparaffinic product was detected in Item 1. A homologous series of normal alkanes, ranging from C12 - C15, was detected in Item 2.
AT5EYP	Item 1, contains Isoparaffinic products which can [sic] either charcoal starters, paint thinners or copiers. Item 2, contains normal alkanes which can be either candle oils or copier toners.
AULZY7	A medium petroleum product was detected in Item 1. Examples of this product would include some charcoal starters and paint thinners. A heavy petroleum product was detected in Item 2. Examples of this product would include some lamp oils and solvents. No ignitable liquids were detected in Item 3.
B45TPU	A medium range isoparaffinic product like that found in some charcoal starters and some paint thinners was present in Item 1. A medium to heavy range (carbon number range eleven through fifteen) normal alkane product like that found in some candle oils was present in Item 2. No ignitable liquid residues were detected in the Control Bag.
B5YN5B	Items A (Item 2), B (Item 1) and C (Control Bag) were analyzed by gas chromatography/mass spectrometry for the presence of ignitable liquids. A medium-heavy normal alkane product was detected in Item A (Item 2). Examples include some lamp oils, copier toners and specialty solvents. A medium isoparaffinic product was detected in Item B (Item 1). Examples include some charcoal starters, paint thinners, copier tones and specialty solvents. No ignitable liquids were detected in Item C (Control Bag).
BB18JN	In both samples traces of flammable liquids were detected. In sample "Item 1" isoparaffinic product (product like some specialty solvents) was detected. In sample "Item 2" normal alkanes product (product like a candle or lamp oils) was detected.
BEKN38	Examination of Item #1 revealed the presence of an isoparaffinic product. Isoparaffinic products include some charcoal starters and some paint thinners. Examination of Item #2 revealed the presence of a n-alkane product. N-alkane products include some candle oils and some copier toners.
BT4A8Z	An isoparaffinic product in the medium range was detected in Item 1. Examples of an isoparaffinic product in the medium range include some charcoal starters, some paint thinners, and some copier toners. A normal alkane product in the medium to heavy range was detected in Item 2. Examples of a normal alkane product in the medium to heavy range include some candle oils and copier toners. No ignitable liquids were detected in Item 3.
C1ENCW	08-536-01: A medium isoparaffinic product was found. 08-536-02: A medium normal-alkane product was found. 08-536-03: No ignitable liquid was determined.
C2QVPH	Item 1 - An isoparaffinic [sic] ignitable liquid was detected, examples of which include isoparaffin specialty products, some charcoal starters, some copier fluids, some aviation fuels + some solvents for insecticides and polish. Item 2 - An alkane ignitable liquid was detected, examples of which include normal alkane specialty products, some candle oils and copier toners. Control bag - comparison sample.
C35QHK	No ignitable liquid residue was detected on the terry cloth substrate control. A medium isoparaffinic product was detected on Item number 1: suspected incendiary device from the attic. This sample is consistent with Isopar H. A heavy range alkane product was detected on Item number 2: suspected incendiary device from the kitchen. Common heavy normal alkane products may include, but are not limited to; some candle oils, carbonless forms, and copier toners.
C7EMQL	Item 1 was found to contain a medium isoparaffinic product. Examples include: Isopars, some charcoal lighter fluids, some paint thinners. Item 2 was found to contain a heavy normal alkane product. Examples include: Norpars, Ultra-Clean lamp oil. Item 3 was submitted as a control.
CBEJL6	Item #1: The volatile contents were recovered using heated headspace recovery method and analyzed

TABLE 4

WebCode	Conclusions
	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 to heavy petroleum product (e.g. Exxon Isopar H, charcoal starters, paint thinners, mineral spirits, etc.) was detected. Item #2: The volatile contents were recovered using heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. A heavy petroleum product (e.g. Exxonmobil Norpar 13, diesel fuel, kerosene, fuel oil, etc.) was detected. Item #3: The volatile contents 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.
CD6LRT	A control bag was submitted as a comparison sample for Items 1 and 2. No volatile ignitable liquids were identified in the control bag. A medium isoparaffinic product was identified in Item 1. A medium to heavy normal alkane product (C10-C14) was identified in Item 2.
CDNUH9	Item 1 was found to contain an ignitable liquid - a medium isoparaffinic product (isopar). A medium isoparaffinic product can originate from some charcoal starter fluids, some paint thinners and some copier toners. Item 2 was found to contain an ignitable liquid - a medium to heavy normal paraffinic product (norpar). A medium to heavy normal paraffinic product can originate from some lamp oils and some insecticides and polishes. Item 3 was examined as a control. No ignitable liquids were detected in Item 3.
CGPVKS	Item 1 contained a medium-range isoparaffinic product. Examples of this type of product include some charcoal starters, some paint thinners, and some cleaning solvents. Item 2 contained a medium-to-heavy range (C12 - C14) normal alkane product. Examples of this type of product include some candle and lamp oils.
CJEWQE	1.1) Medium Isoparaffinic product was detected in the sample. 1.2) Heavy N-Alkane product was detected in the sample. 1.3) No ignitable liquid residue was detected in the sample.
D2P9PX	Item 1 contains a volatile residue of a medium range isoparaffinic product. Examples of an isoparaffinic product include some charcoal starters, some paint thinners, and some commercial specialty solvents. Item 2 contains a volatile residue of a medium to heavy normal alkane product. Examples of a normal alkane product include some candle oils and some solvents. The control sample was evaluated for comparison purposes only.
D714VD	Analysis of Item 1 revealed the presence of a medium isoparaffinic product examples of which include some charcoal starters, some paint thinners, and some copier toners. Analysis of Item 2 revealed the presence of a heavy normal alkane product examples of which include some candle oils, carbonless forms, and some copier toners.
D89FBU	Sample #1: Analysis indicates the presence of an isoparaffinic product. Sample #2: Analysis indicates the presence of a normal alkane product.
D8CVQF	Gas chromatographic mass spectral analysis detected the presence of a medium range isoparaffin product in Item 1. Examples of medium range isoparaffin products include: some charcoal starters, some copier fluids, some aviation gasoline, some lamp oils, some solvents for insecticides and polishes, some camping fuels. Gas chromatographic mass spectral analysis detected the presence of a heavy range normal alkane in Item 2. Examples of heavy range normal alkanes include: some lamp oils, some solvents for insecticides and polishes. Gas chromatographic mass spectral analysis did not detect the presence of any ignitable liquid in control sample.
DLZ9L3	Item 1 was determined to contain a medium isoparaffinic ASTM class ignitable liquid. Examples of this ASTM class are some charcoal starters and some paint thinners. Item 2 was determined to contain a heavy normal alkane ASTM class ignitable liquid. Examples of this ASTM class are some candle oils and some copier toners.
DNK1T1	Item 1 contained a section of white towel cloth. A speciality ignitable liquid (e.g. paint thinner, charcoal starter) was detected in this item. Item 2 contained a section of white towel cloth. A speciality ignitable liquid (e.g. candle oil, copier toner, lamp oil) was detected in this item.
DS3PHK	Item 1 was found to contain an isoparaffinic product, that can be found in, but is not limited to, some

TABLE 4

WebCode	Conclusions
	solvents and paint thinners. Item 2 was found to contain a normal alkanes product that can be found in, but is not limited to, some solvents, feedstock and lamp oils. No ignitable liquid residues were detected in the control bag.
DTJ8H3	A medium isoparaffinic product was detected in Item 1; examples of such would include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners. A heavy normal alkanes product was detected in Item 2; examples of such would include some candle oils, carbonless forms, and some copier toners. There were no commonly encountered flammable liquids detected in the control bag.
DTTBZ9	The results strongly suggest that there are flammable liquids in Item 1 and Item 2. In Item 1 the liquid is of an unknown type of petroleum product. In Item 2 the liquid is of a fire-lighting or lampoil type.
E1NY6Z	The presence of a medium (C8-C13) isoparaffinic[sic] product was detected in Item #1. The presence of a heavy (C9-C20) normal alkane product was detected in Item #2. The presence of a flammable or ignitable liquid was not detected in the "control bag".
E6X1GT	Item #1 - Analysis indicates the presence of an isoparaffinic product. Item #2 - Analysis indicates the presence of a Normal Alkane product. 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.
E79PSV	The suspected incendiary device from the attic (Item 1) contains a medium range isoparaffinic product residue. The suspected incendiary device from the kitchen (Item 2) contains a heavy range normal alkane product residue.
E871KF	Control: No ignitable liquid residues detected. Item 1: A medium range petroleum product detected. Medium range petroleum products include but are not limited to cleaning solvents, gloss remover, pre-paint cleaners and paint thinners. Item 2: A heavy petroleum product detected. Heavy petroleum products include but are not limited to lamp fuel oils.
EFZ9YT	Exhibits 1 through 3 were analyzed by gas chromatography-mass spectrometry (GC-MS) for the presence of ignitable liquid residues. An ignitable liquid, classified as a medium range isoparaffinic product, was identified on Exhibit 1. Ignitable liquid products in this classification are commercially available as some charcoal starters, some paint thinners, and some copier toners. An ignitable liquid, classified as a medium-to-heavy normal alkane product, was identified on Exhibit 2. Ignitable liquid products in this classification are commercially available as some candle oils, some copier toners, and some carbonless forms. No ignitable liquid was detected on Exhibit 3.
EQBF19	Item 1 - a medium range isoparaffinic product was detected. Examples of this class of ignitable liquids would include some charcoal lighters and some solvents and feedstock. Item 2 - a normal alkane product was detected. Examples of the class of ignitable liquids in the detected range of C11 to C15 would include some lamp oils and some solvents and feedstock. Item 3 - no ignitable liquids were detected - comparison sample.
ESXUBK	[No Conclusions Reported.]
ETBJVG	Results: The submitted evidence was extracted onto activated carbon for future examination. A portion of each carbon extract was turned over to the [State] Laboratory for Gas Chromatographic - Mass Spectral analysis. A report containing the results of that examination will be sent directly to your agency. Any questions regarding this case may be directed to the laboratory. The remaining portion of each activated carbon extract generated from this evidence will be maintained at the laboratory.
EVRNR	Item 1 Analysis revealed the presence of a medium isoparaffinic petroleum product, examples include some odorless charcoal lighter fluids, mineral spirits, & specialty solvents. Item 2 Analysis revealed the presence of a heavy normal alkane petroleum product examples include candle and lamp oils and some specialty solvents.
EWVJ6R	Item 1 was found to contain a medium isoparaffin product (petroleum product). Examples include but are not limited to specialty products, paint thinners, and some charcoal starters. Item 2 was found to contain a heavy normal alkane product (petroleum product). Examples include but are not limited to some specialty products, and candle oils. No ignitable liquids were identified in Item 3.

TABLE 4

WebCode	Conclusions
F4QCRQ	I found the items received to consist of: Item 1: A piece of cloth said to be from the attic which on analysis, I detected the presence of residue of medium to heavy isoparaffinic products with carbon number in the range of carbon 9 to carbon 16. Item 2: A piece of cloth said to be from the kitchen which on analysis, I detected the presence of residue of heavy normal alkanes products with carbon carbon[sic] number in the range of carbon 12 to carbon 17. I am of the opinion that two different types of flammable liquid had been used to deliberately start the fire.
F7TA2H	Item 1 is Isoparaffinic products. It can either be charcoal starters, paint thinners or copier toners. Item 2 - normal alkanes products. It can either be candle oils or copier toners.
FBAW4H	An isoparaffinic product was detected on the cloth in Item 1. Examples of isoparaffinic mixtures include, but are not limited to mineral spirits and paint thinners. An alkane product was detected on the cloth in Item 2. Examples of this type of product include, but are not limited to lamp oil, solvents and chemical feedstocks.
FFKTR	On analysis, I detected medium isoparaffinic products in Item 1 and medium normal alkanes products in Item 2.
FL9YZZ	Item 1: Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. Item 2: N-alkanes product, examples of which are some candle oils, carbonless forms, and copier toners. Item 3: Used in conjunction with Items 1 and 2.
FSU13X	The following results were obtained: Control bag - Nil ignitable liquid identified. Item 1 - Medium isoparaffinic product identified. Item 2 - Medium to heavy normal alkane product identified.
FWU1NM	Item 1 was found to contain a medium range petroleum product. Examples of such mixtures include some organic solvents, some charcoal lighters and some paint thinners. Item 2 was found to contain a volume mixture consistent with a heavy range petroleum product. Examples of such mixtures include some organic solvents and some lamp oils. No common ignitable liquid residues were detected in the control sample.
FXNW43	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. some paint thinners, charcoal starters, copier toners, 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 gas chromatography/mass spectrometry. A heavy petroleum product (e.g. some lamp fuels, candle oils, copier toners, etc.) was detected. Item #3 (control bag): 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 gas chromatography/mass spectrometry. The item was analyzed as a comparison sample.
G6C2G1	Analysis of specimen (Item 1) determined the presence of a medium range Isoparaffinic product. Analysis of specimen (Item 2) determined the presence of a medium-heavy (C11-C15) range normal alkane product.
G6DUE9	Item #1 was tested and identified as containing an Isoparaffinic product. Some examples are charcoal lighter, paint thinners and solvents. Item #2 was tested and identified as containing Normal Alkanes. Some examples are lamp oils and solvents.
G77PVQ	[No Conclusions Reported.]
GCC86	Item 1 contained an isoparaffinic product. A local product that could be a source of this product is TMK Smokeless Kerosene. However other products such as some charcoal starters, paint thinners, odourless mineral spirits and copier toners could also be a source of this product. Item 2 contained a normal alkane product. Products such as some solvents, candle oils, lamp fuels could be a source of this product.
GEQRGU	I #1 - A medium isoparaffinic product found. Some examples of medium isoparaffinic products are some charcoal starters, some paint thinners, and some copier toners. I #2 - A heavy n-alkane product

TABLE 4

WebCode	Conclusions
	found. Some examples of heavy normal alkane products are some candle oils, carbonless forms and some copier toners. 1 #3 - No flammable or combustible liquids were found.
GFDY9Q	On analysis I found "Item 1" to contain traces of medium class petroleum distillates, and "Item 2" to contain[sic] traces of medium class normal alkanes products.
GFJLXB	Item I contains components identifiable as an isoparaffinic product in the range of "Isopar H" through "Isopar L". Item II contains a homologous series of normal alkane from C11 through C15, which is can be [sic] identified as a "Norpar 13" type product. The Control Item failed to reveal the presence of an ignitable liquid.
GHTPSN	Item 1 was found to contain a volatile mixture consistent with a medium range petroleum product. Examples of such mixtures include some charcoal lighters, some paint thinners and some copier fluids. Item 2 was found to contain a volatile mixture consistent with a heavy range petroleum product. Examples of such mixtures include some lamp oils and some solvents. No common ignitable liquids were detected in the control bag (Item 3).
GKUU57	The above exhibits were examined by gas chromatography-mass spectrometry for the presence of ignitable liquids. A medium isoparaffinic product, which is an ignitable liquid, was detected in Item 1. Examples of this type of product include odorless mineral spirits, some brands of paint thinner and some brands of charcoal lighter fluid. A heavy normal alkane product, which is an ignitable liquid, was detected in Item 2. Examples of this type of product include some candle oils, lantern oils and some copier toners. No ignitable liquids were detected in the control bag with the comparison cloth.
GUGTUS	Item 1 - Medium Isoparaffinic Product found, some examples include some charcoal starters, paint thinners and copier toners. Item 2 - Heavy N-Alkane Product found, some examples include candle oils and copier toners.
GUHLUL	Item 1 contained a volatile mixture which was consistent with a medium isoparaffinic petroleum product, also known as an isopar. Examples of such products include some charcoal lighters, paint thinners and the solvent in copier toners. Item 2 contained a volatile mixture which was consistent with a heavy normal alkane petroleum product, also known as a norpar. Examples of such products include some torch fuels and some candle lamp oils. No common ignitable liquids were found in the control item.
GXLGCN	No ignitable liquids residues were identified in Item 1. A heavy-range n-alkane product was identified in Item 2. This type of product may be found in, but not limited to, candle and lamp oils. No ignitable residues were identified in the "Control Bag".
H346A3	Item 1 disclosed the presence of an Isoparaffinic product, medium range. Item 2 disclosed the presence of a normal alkane product, medium to heavy range.
H4YWDW	An isoparaffinic residue of medium to heavy carbon range (C11-C13) was detected in Item 2[sic]. Examples of isoparaffins include charcoal starter, mineral spirits (Whitaker Odorless Mineral Spirits) and some isopar specialty solvent products (Isopar K). A normal alkane residue of medium to heavy carbon range (C12-C14) was detected in Item 2. Examples of normal alkane products include some candle oils and copier toner products. No ignitable liquid residue was detected in the control nylon bag.
H9Q4W5	The presence of an Isoparaffinic product was detected in this sample. The presence of a normal alkane product was detected in this sample.
HEKWDE	[No Conclusions Reported.]
HKSWG C	Item No. 1: No identifiable ignitable liquid was found. Item No. 2: Normal Alkanes product of carbon range C12-C15 were found.
HL8FGV	Item 1 was analyzed for ignitable liquid residue and found to contain medium isoparaffinic product. A product in this range would include Isopar H. Item 2 was analyzed for ignitable liquid residue and found to contain a normal alkane product in the medium to heavy range.
HY9RUN	I found Item 1 to contain flammable substance of Isoparaffinic Products class. I found Item 2 to contain flammable substance of Normal Alkanes Products class.
J674LV	Item 1, Nylon bag containing cloth. Examination reveals the presence of an ignitable liquid residue in the Medium Range of the Isoparaffinic Products Class. Refer to the attached Ignitable Liquid

TABLE 4

WebCode	Conclusions
	Classification System. Item 2, Nylon bag containing cloth. Examination reveals the presence of an ignitable liquid residue in the Heavy Range of the Normal-Alkanes Products Class. Refer to the attached Ignitable Liquid Classification System. Control bag, Nylon bag containing cloth. No ignitable liquid as defined by the attached Ignitable Liquid Classification System was detected.
J8THUL	By means of physical and chemical analysis was detected: an ignitable substance within the medium isoparaffinic products class in Item 1. Examples of these substances are some charcoal starters, some paint thinners and some copier toners. An ignitable substance within the "medium to heavy" (C12-C14) normal-alkanes products class in Item 2. Examples of these substances are some candle oils and some copier toners.
J995LT	I #1 - A medium isoparaffinic product found. Some examples of medium isoparaffinic products are charcoal starters, some paint thinners, and some copier toners. I #2 - A heavy normal alkane product found. Some examples of heavy normal alkane products are some candle oils, copier toners, and carbonless forms. Control Bag - No flammable or combustible liquids founds.
JDFPFT	A medium range isoparaffinic product residue was detected in Item 001-1. Some examples of products that may contain an isoparaffinic product can include charcoal starters, paint thinners, copier toners and commercial specialty solvents. A heavy range normal alkane product residue was detected in Item 001-2. Some examples of products that may contain a normal alkane product can include lamp and candle oils, copier toners, and solvents.
JHJ3ZJ	Item 1 identified as an isoparaffinic product in the light to medium range, sample lighter than C12. Item 2 identified as a normal alkane product containing C13, C14 and C15. Norpar 13 is a product with similar characteristics.
JL3LAU	Analysis for ignitable liquid residues: Item #1: Medium petroleum product, (Isopar); examples of which are solvents and feedstocks. Item #2: Medium petroleum product (Norpar); examples of which are solvents, feedstocks and lamp oil.
JP3UE4	All items were analyzed for the presence of ignitable liquids by gas chromatography/mass spectrometry (GC/MS). Item 1 contained an isoparaffinic product. Some examples of isoparaffinic products are some paint thinners, some charcoal starters and some lamp oils. Isoparaffinic products are ignitable liquids. Item 2 contained a normal alkanes product. Some examples of normal alkanes products are some candle oils, some copier toners and some insecticide vehicles. Normal alkanes products are ignitable liquids. No ignitable liquid was detected in the contents of the control bag.
JP4MCB	Gas chromatographic - mass spectral analysis of Item 1 identified the presence of a mid range isoparaffinic product. Examples include but are not limited to copier toner, solvents and some paint thinners and charcoal starters. Gas chromatographic - mass spectral analysis of Item 2 identified the presence of a heavy range normal alkane product. Examples include but are not limited to some lamp oils and other solvents.
JVNUTW	A medium isoparaffinic product was identified in Lab Item 1. Examples of materials in this class include some charcoal starter fluids and some paint thinners. A medium to heavy normal alkanes product (C12-C15) was identified in Lab Item 2. Examples of materials in this class include some lamp oils and some copier toners. No ignitable liquids were identified in the control bag. Samples of recovered materials from this case have been preserved with the evidence.
JVS98H	Item 1: Sample contains an ignitable liquid in the Medium Isoparaffinic class. Examples of Medium Isoparaffinic products are some charcoal starters, some paint thinners and some copier toners. Item 2: Sample contains an ignitable liquid in the Heavy Normal Alkane class. Examples of Heavy Normal Alkane products are some candle oils, some copier toners and carbonless forms. Control: No ignitable liquids were detected.
JWWYFU	A medium range isoparaffin product was identified on the terrycloth from Item 1. This type of product can be found in some charcoal starters, some copier toners, and some paint thinners. A heavy range normal alkane product was identified on the terrycloth from Item 2. This type of product can be found in some candle oils, some copier toners, and some insecticide sprays. No ignitable liquid residues were detected on the terrycloth from the control bag.
K26KQA	[No Conclusions Reported.]

TABLE 4

WebCode	Conclusions
KGY68Y	No ignitable liquids were identified in the control bag. Item 1 contained an Isoparaffinic product. Members of this class may include but are not limited to charcoal lighter fluids, paint thinners, and specialty solvents. Item 2 contained a normal alkane product. Members of this class may include but are not limited to candle oils, lamp oils and specialty solvents.
KSJGRP	Item A1-1 was found to contain material consistent with the composition of "MEDIUM ISOPARAFFINIC PRODUCTS" as described by ASTM specifications E1618-06. The term "MEDIUM ISOPARAFFINIC PRODUCTS" includes products such as some charcoal starters, paint thinners and some copier toners. Item A1-2 was found to contain material consistent with the composition of "HEAVY N-ALKANES PRODUCTS" as described by ASTM specifications E1618-06. The term "HEAVY N-ALKANES PRODUCTS" includes products such as some candle oils and copier toners. Item A1-3 was "Control Sample" used for comparison purpose. The chain of custody documents available at the laboratory should be referenced for evidence tracking and disposition of evidence. Testing documentation supports the results detailed in this report. The original supporting documentation is available for review at the laboratory and may consist of worksheets, notes, instrument tracings, and photographs.
L8585W	Item #1 - Isoparaffinic Products (C9-C20+) Heavy Subclass. Item #2 - De-Aromatized Paraffinic (n-alkanes) C11-C15. Item #3 - Control Sample. No hydrocarbons detected. While the two items differ, they may still have been employed to initiate or fuel the fire. It is also possible that the products were present at the respective locations, and due to secondary contamination.
L8NE65	A medium range ignitable liquid was detected in Item #1. Medium range ignitable liquids may include products such as charcoal starters, lamp oils and some specialty solvents. A heavy range ignitable liquid was detected in Item #2. Heavy range ignitable liquids may include products such as lamp oils, kerosene and diesel fuels. No ignitable fluids was detected in Item #3 (CONTROL).
LC3H4G	I found the "Item 1" to contain heavy Isoparaffinic products. Item 2 to contain heavy Normal Alkanes Products.
LDH5VP	No common ignitable liquid was identified in the control bag with cloth substrate. Some conditions that could lead to this result are: No common ignitable liquid was present in the material analyzed. An ignitable liquid was present but below quantities required for positive identification. An uncommon ignitable liquid was present. A medium isoparaffinic product was identified in Item 1. Medium isoparaffinic products include, but are not limited to, some charcoal starters, some paint thinners, and some copier toners. A heavy normal alkane product was identified in Item 2. Heavy normal alkane products include, but are not limited to, some copier toners, candle oils and carbonless forms.
LJ8E5N	Item 1 was found to contain materials consistent with the composition of "MEDIUM ISOPARAFFINIC PRODUCTS" as described by ASTM specifications E1618-06. The term "MEDIUM ISOPARAFFINIC PRODUCTS" includes products such as some charcoal starters, paint thinners, and some copier toners. Item 2 was found to contain materials consistent with the composition of "HEAVY N-ALKANES PRODUCTS" as described by ASTM specifications E1618-06. The term "HEAVY N-ALKANES PRODUCTS" includes products such as some candle oils and copier toners. Item 3 was a control for comparison only.
LNVHJL	Analysis by Gas Chromatography/Mass Spectrometry of the cloth (Agency Item 1) reveals the presence of a[<i>sic</i>] isoparaffinic product. Examples of isoparaffinic products include: some specialty solvents, some charcoal starters, some paint thinners and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the cloth (Agency Item 2) reveals the presence of a normal alkanes product. Examples of normal alkanes products include: some candle oils, carbonless forms, and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the cloth (Agency control) fails to reveal the presence of any ignitable liquids. The procedure employed does not detect the presence of light volatiles such as certain alcohols and acetone.
LTDMM8	Gas chromatograph mass spectral analysis showed the presence of a medium petroleum product in Item #1 and heavy petroleum product in Item #2.
LTSXG7	On analysis, I found: - Item 1 (Suspected Incendiary Device from the attic) to bear residues of ignitable liquid which could fall into the category Isoparaffinic Products (subclass: Medium). Item 2 (Suspected Incendiary Device from the kitchen) to bear residues of ignitable liquid which could fall into the category Normal Alkanes Products (subclass: C11-C14).

TABLE 4

WebCode	Conclusions
LYNKE2	The above items were examined in accordance with standard Laboratory methods and procedures based upon ASTM International guidelines. Item 1: An ignitable liquid residue was detected - an isoparaffinic product. Isoparaffinic products can originate from some charcoal starters, some paint thinners, and some copier toners. Item 2: An ignitable liquid residue was detected - a normal-alkanes product. Normal-alkanes products can originate from some candle oils, some copier toners, and some carbonless forms. Item 3: No ignitable liquid residues were detected.
MARAQ8	A medium range ignitable liquid was detected in Item 1. Medium range ignitable liquids may contain such products as specialty solvents, charcoal starters, and paint thinners. A heavy range ignitable liquid was detected in Item 2. Heavy range ignitable liquids may include such products as lamp oils, kerosene, diesel and fuel oils. No ignitable liquid was detected in Item 3.
MEKFYK	Analysis by Gas Chromatography/Mass Spectrometry of the cloth sample (Item 1) reveals the presence of a medium isoparaffinic product. Examples include: some charcoal starters, some paint thinners, some specialty solvents and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the cloth sample (Item 2) reveals the presence of a heavy normal alkane product. Examples include: some candle oils and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the cloth control sample fails to reveal the presence of any ignitable liquids.
MGCHTY	Gas Chromatographic Mass Spectral (GC/MS) analysis of the adsorbed headspace of Item 1 disclosed the presence of a medium isoparaffinic product. Example of a medium isoparaffinic product include, but are not limited to, some charcoal starters, paint thinners and copier toners. Gas Chromatographic Mass Spectral (GC/MS) analysis of the adsorbed headspace of Item 2 disclosed the presence of a medium to heavy normal-alkane. Examples of a medium to heavy normal-alkane include, but are not limited to, some candle oils and copier toners.
MHSMNQ	Item 1 contains medium range (C8-C11) isoparaffinic products. Item 2 contains heavy range (C11-C15) normal alkane products.
MK1QH2	Item 1: A Medium Isoparaffinic Product was detected. Examples of a Medium Isoparaffin include, but are not limited to, some paint thinners, some charcoal starters, and some solvents. Items[sic] 2: A Heavy Normal Alkane Product was detected. Examples of a Heavy Normal Alkane include, but are not limited to, some lamp oils, some solvents, and some feedstocks.
MM3VVM	Items 1 through 3 were analyzed by Gas Chromatography-Mass Spectrometry (GC-MS). The Item 1 extract contained a medium petroleum product which can be found in, but is not limited to, some charcoal starter fluids and insect sprays. The Item 2 extract contained a mixture of dodecane, tridecane, tetradecane and pentadecane which can be found in, but is not limited to, some lamp oils. No ignitable liquids were identified on the Item 3 extract.
MMH86E	Item 1: An ignitable liquid was detected. The liquid was identified as a medium isoparaffinic product. An example of a liquid of this type would be Exxon Isopar K. Item 2: An ignitable liquid was detected. The liquid was identified as a medium to heavy normal alkane product. An example of a liquid of this type would be Lamplight Farms Ultra Pure Lamp Oil.
MQK86B	1. Confirmed Medium Isoparaffinic Product. 2. Confirmed Heavy Normal Alkane Product.
MWP2LY	Not applicable to this participant's normal duties.
MZUH33	Gas chromatographic analysis (GC-MSD; heated headspace sampling and passive headspace concentration) was performed on each of the submitted items and yielded the following results. Item #1 - a medium range isoparaffinic product was detected. Examples of the medium range isoparaffinic products of the type detected include some charcoal lighter fluids, some mineral spirits and some specialty solvents. Item #2 - a medium to heavy range normal alkane product was detected. Examples of medium to heavy range normal alkane products of the type detected include some lamp oils, some wax lifters, and some specialty products. Control bag - ignitable liquid residue was not identified within the control bag submitted for comparison purposes.
N2XCM6	Gas chromatographic analysis (GC-MS, passive headspace concentration and heated headspace sampling) of the submitted materials yielded the following results: Item #1: a medium isoparaffinic product was detected. Examples of an isoparaffinic product, of the type detected, include some odorless

TABLE 4

WebCode	Conclusions
	mineral spirits and some charcoal lighter fluids. Item #2: A heavy normal alkane product was detected. Examples of a normal alkane product, of the type detected, include some lamp oils and some consumer aerosol products such as Norpar 13. Control bag: submitted as a control sample.
N6C71H	Examination of Item 1 did not reveal the presence of an ignitable liquid. Examination of Item 2 revealed the presence of a medium to heavy range normal alkane product. Examples of normal alkane products include some lamp oils. The control bag submitted was evaluated for comparison purposes only.
NBY5MK	Instrumental analysis of Exhibit #1 revealed medium isoparaffinic product. Instrumental analysis of Exhibit #2 revealed heavy normal alkane product. No ignitable liquid was detected in Exhibit #3.
NLM84E	Item 1 - contains Isoparaffinic products which can either be charcoal starter, paint thinners or copiers. Item 2 contains normal alkane which can either be candle oils or copier toners.
NNC2SN	1) Medium weight isoparaffinic product identified. Examples include: some charcoal starters, some solvents, and some adhesive removers. 2) Heavy weight normal alkane product identified. Examples include: lamp oils and smokeless candle oils.
NNGG69	Item 1 - Inconclusive - indicative of a Heavy Isoparaffinic product (C12-C15) was detected. The results did not pass our limit for delivering a positive report. Item 2: Heavy Normal Alkane product (C12-C15) was detected. This includes -among others- some candle oils or copier toners.
NVCU9C	The first Item which was Item 1 I received Isoparaffinic products which can be either charcoal starters, paint thinners or copier toners. Item 2 was normal alkanes products which can be either candle oils or copier toners.
NW8ZJW	Item 1 was found to contain a medium isoparaffinic product. Examples may include but are not limited to some charcoal starters, some paint thinners, and some copier toners. Item 2 was found to contain a heavy normal alkane product. Examples may include but are not limited to some candle oils, some NCR papers, and some copier toners. No ignitable liquids were identified in Item 3 (Control).
NWNELE	Instrumental analysis of Item 1 revealed the presence of an isoparaffinic product, examples of which are some charcoal starter fluids, some paint thinners and odorless mineral spirits. Instrumental analysis of Item 2 revealed the presence of a normal alkane product, examples of which are some candle oils, some copier toners and specialty solvents.
NX3NXL	Item 1: The article was examined for the presence of commonly encountered accelerants, eg petrol, paraffin etc, with a negative result. However, the presence of a hydrocarbon mixture was detected. Based on in-house reference material, the composition of this hydrocarbon mixture was found to be similar to an isoparaffinic product. Item 2: The article was examined for the presence of commonly encountered accelerants, eg petrol, paraffin etc, with a negative result. However, the presence of a homologous alkane series was detected.
P71FSC	Item No. 1, which is Isoparaffinic which can be charcoal, paint thinner or copier baners[sic]. Item No. 2 is normal alkanes consists of three peaks which resembles some peaks from kerosene which can be either candle oils or copier toners.
P8E5BA	Item #1 - Isoparaffinic product, examples of which are some charcoal starters, some paint thinners and some copier toners. Item #2 - Heavy petroleum product, some examples of which are some candle oils and some copier toners.
PAYC4K	I detected the presence of a medium range, Isoparaffinic ignitable liquid in Item 1. Examples of this product include some charcoal starters, paint thinners, copier toners, and specialty products. I detected the presence of a heavy range, Normal Alkane ignitable liquid in Item 1[sic]. Examples of this product include some candle oils, carbonless forms, copier toners, and specialty products.
PDYPZK	A medium isoparaffinic product was detected in the suspected incendiary device from the attic (Item 1) and a heavy normal alkane product was detected in the suspected incendiary device from the kitchen (Item 2).
PEZAZ5	Items 1, 2 and the control sample were analyzed by gas chromatography and mass spectrometry techniques for the presence of ignitable liquids. A medium range Isoparaffinic Product was detected in Item 1. Examples of this type of product are some charcoal starters, some paint thinners and some copier toners. A Normal Alkane Product was detected in Item 2. Examples of this type of ignitable liquid

TABLE 4

WebCode	Conclusions
	are some candle oils or some copier toners. The ignitable liquid detected in Item 1 is different from the ignitable liquid detected in Item 2. No ignitable liquid was detected in the control sample.
PK9LYR	tem[sic] 1. Medium isoparaffinic product. Examples of medium isoparaffinic products are some charcoal starters, some paint thinners and some copier toners. Item 2. Heavy normal alkane product. Examples of heavy normal alkanes products are some candle oils, some lamp oils, carbonless forms and some copier toners.
PMDA8P	Items 1, 2 and 3 were sampled for ignitable liquid residues using passive charcoal adsorption techniques. The samples were analyzed using gas chromatography with mass spectrometry. A Medium Isoparaffinic Product was detected in Item 1. Examples of medium isoparaffinic products may include some charcoal starters, paint thinners, and copier toners. A Heavy Normal Alkanes Product was detected in Item 2. Examples of heavy normal alkanes products may include some candle oils, carbonless forms and copier toners. No ignitable liquid residues were detected in Item 3 (control).
PRBV5J	Analysis of Item #1 revealed the presence of an isoparaffin product. Products in this range include, but are not limited to: some charcoal starters, some copier fluids, some aviation gasoline, some lamp oils, some solvents for insecticides and polishes and some camping fuels. Analysis of Item #2 revealed the presence of a normal alkane range product. Products in this range include, but are not limited to: some lamp oils, some solvents for insecticides and polishes, and other speciality products.
Q1CKFT	From the first cloth of the suspected the residue of an isoparaffinic product was identified, which is classified to the medium product range (according to the Ignitable Liquid Classification Scheme ASTM 1618-06). It can be also residue of any charcoal starter. On the second cloth the residue of heavy normal-alkane product was identified. It can be also the residue of ExxonMobis Norpal 13, which was slightly evaporated. Both of two types ignitable liquids can increase the intensity of fire. [sic]
Q4ELFQ	Exhibit 1 - white cloth. Isoparaffinic product. Exhibit 2 - white cloth. Normal alkane product. Exhibit 3 - white cloth. Not examined.
QAUF6U	Item #1: Ignitable liquid residues in the range of an Isoparaffinic product. Products in this range include, but are not limited to, some types of odorless paint thinners, mineral spirits, lighter fluids, charcoal starters, and some types of cleaners and solvents. Item #2: Ignitable liquid residues in the range of a Normal Alkane Product. Products in this range include, but are not limited to, some types of lamp oils, and lamp fuels and some types of plasticizers and solvents. Item #3: No ignitable liquid residues were detected. Control Sample.
QBXM4E	No flammable liquid was identified in the control sample or in Item 1. Item 2 contains a mid-to-heavy normal alkanes product, composed primarily of dodecane, tridecane and tetradecane.
QKK1BS	Item 1 contains a medium range isoparaffinic ignitable liquid residue. Examples of isoparaffic products include odorless charcoal starters, mineral spirits and paint thinners, some copier fluids, some aviation gasoline, some lamp oils, some solvents for insecticides and polishes, and some camping fuels. Item 2 contains a heavy range normal alkane ignitable liquid residue. Examples of normal alkane products include lamp oil, solvent, and feedstock. An ignitable liquid residue was not detected in the control bag.
QLKSVS	Item 1 was determined to contain a medium isoparaffinic products ASTM class ignitable liquid. Examples of this ASTM class are some charcoal starters, some paint thinners, and some copier toners. Item 2 was determined to contain a heavy normal alkanes products ASTM class ignitable liquid. Examples of this ASTM class are some candle oils, carbonless forms, and copier toners.
QMWXHB	1. A medium isoparaffinic product was detected using ASTM 1412 and 1618 (Example: Isopar H). 2. A normal alkane product in the C11-C15 range was detected using ASTM 1412 and 1618 (Example: Norpar 13).
QNJEZG	Analysis by Gas Chromatography/Mass Spectrometry of the cloth material (Item 1) reveals the presence of an Isoparaffinic Product (medium range). Examples of Isoparaffinic Products include some charcoal starters, some paint thinners and some dry cleaning solvents. Analysis by Gas Chromatography/Mass Spectrometry of the cloth material (Item 2) reveals the presence of a Normal Alkane Product (heavy range). Examples include some candle oils, some carbonless forms and some copier toners. Analysis by Gas Chromatography/Mass Spectrometry of the cloth material (control) fails to reveal the presence of any ignitable liquids.

TABLE 4

WebCode	Conclusions
QPK1Y2	An ignitable liquid was detected with Item 1 and a different ignitable liquid was detected with Item 2. Item 1 was isoparaffinic and is used as a solvent such as copier toner or paint thinners. Item 2 was a normal alkane used as a solvent or as lamp oil. Item 3 was negative.
QQV8DB	Item 1 contained residues of a flammable liquid that was similar to white spirit, although some differences were detected. Item 2 contained residues of a flammable liquid similar to paraffin/turpentine substitute or a similar product. The control sample was not securely packaged, therefore a definite identification is not possible. However, analysis suggested that trace amounts of a flammable liquid, similar to that in Item 2, were present.
QU7PU7	Gas chromatography and mass spectrometry were used to analyze the samples in Items #1 and #2. A mid-range isoparaffinic hydrocarbon mixture like that in some paint thinners and charcoal lighter fluids was present in Item #1. A heavy-range normal alkane hydrocarbon mixture like that in some lamp oils was present in Item #2.
QVNFJW	A medium isoparaffinic product was found on the following exhibit(s): 08CTS2-01. A medium normal-alkanes product in the following exhibit(s): 08CTS2-02. No ignitable liquid was determined in the following exhibit(s): 08CTS-CO.
R1VL4F	A medium-range isoparaffinic product was present in Item 1. Examples of this type of product include some charcoal starters, some paint thinners and some copier toners. A heavy-range normal alkane product was present in Item 2. Examples of this type of product include some candle oils, some carbonless forms and some copier toners. No ignitable liquids were detected in the "control bag" item.
R9F6V8	Examination of Item 1 revealed the presence of a medium petroleum product, examples of which include (but are not limited to) charcoal starters and specialty solvents. Examination of Item 2 revealed the presence of a heavy petroleum product, examples of which include (but are not limited to) lamp fuels and specialty solvents.
RAHSVS	Item #1: The volatile contents were extracted by passive headspace adsorption using an activated charcoal 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 extracted by passive headspace adsorption using an activated charcoal recovery method and analyzed by gas chromatography/mass spectrometry. A heavy petroleum product (e.g. lamp oil, kerosene, fuel oil, etc.,) was detected.
RAUTCM	I formed the opinion based on the techniques used, that the suspected incendiary device from the attic (Item 1), was found to contain medium isoparaffinic product residues. Isoparaffinic products are ignitable liquids. I also formed the opinion based on the techniques used, that the suspected incendiary device from the kitchen, (Item 2) was found to contain heavy normal alkane product residues. Normal alkane products are ignitable liquids.
RTDQ6F	Item 1 contained heavy petroleum distillates. Item 2 contained heavy petroleum distillates.
RVGKQJ	Item 1. Based on our analysis and findings we have not detected any ignitable liquids. (See additional comments). Item 2. There is in all probability identified an ignitable liquid, which probably have its origin from a candle oil.
RYFH2Q	Item 1 contained a medium isoparaffinic product. Examples of products containing a medium isoparaffin include, but are not limited to, some charcoal lighter fluids. Item 2 contained a heavy normal-alkane product. Examples of products containing a heavy normal-alkane include, but are not limited to, some lamp oils. The control sample did not contain an ignitable liquid.
RZFYC8	No ignitable liquid was detected on the Control sample. Analysis by GCMS of Item 1 and Item 2 did not revealed the same characterizations. Item 1 was found to contained medium Isoparaffinic products. According to ASTM E1618-08 Ignitable Liquid Classification Scheme, examples of medium isoparaffinic products are some charcoal starters, some paint thinners and some copier toners. Item 2 was found to contained normal alkane products (in the range of C11 to C14). According to ASTM E1618-08 Ignitable Liquid Classification Scheme, examples of Normal alkane products are some candle oils, carbonless forms and copier toners. [sic]
SCZBEM	A medium isoparaffinic product was identified in Item 1. Examples of materials in this class include some

TABLE 4

WebCode	Conclusions
	charcoal starter fluids and some paint thinners. A medium to heavy n-alkane product (C12-C15) was identified in Item 2. Examples of materials in this class include some lamp oils and some copier toners. No ignitable liquids were identified in the Control Bag. Samples of recovered materials from this case have been preserved with the evidence.
SMH2PU	An isoparaffinic product was detected in the suspected incendiary device from the attic (Item 1). Isoparaffinic products include solvents, aviation fuels and charcoal lighters. A normal alkane product was detected in the suspected incendiary device from the kitchen (Item 1[sic]). Normal alkane products predominantly include lamp oils.
SST18Y	Item 1: Contains traces of medium isoparaffinic products. Although the pattern doesn't fit with known commercial flammable products of our database, it may be present in some charcoal starters, some paint thinners, some copier toners. Item 2: Contains medium normal alkanes products (mainly C12-C13), which can be found in some charcoal starters.
SZTDC8	Item 1 contained residues of isoparaffins which can be for example from lamp oil, industrial solvent or lighter fluid. Item 2 contained residues of normal alkanes which can be for example from lamp oil or industrial solvent. Control bag didn't contain flammable liquids.
T2DR8V	Residues on specimen Q1 (Item 1) were identified as a medium range isoparaffinic product. Examples of medium range isoparaffinic products include charcoal starters and paint thinners. Residues on specimen Q2 (Item 2) were identified as a heavy range norparaffin product such as Norpar 13. Examples of heavy range norparaffin products include candle oils. No residues were identified on the specimen Q3 Control. Residues were extracted from the specimens by a passive adsorption technique. The adsorbents were rinsed with carbon disulfide, and the rinses were analyzed by gas chromatography/mass spectrometry.
TASF9P	Item 1 was positive for a flammable/ignitable liquid residue consistent with the isoparaffinic class of compounds. Examples of commercial products include but are not limited to: some charcoal starters/lighter fluids, some paint thinners, aviation gas, and some specialty solvents. Item 2 was positive for a flammable/ignitable liquid residue consistent with the normal alkane class of compounds. Examples of commercial products include but are not limited to: some candle oils, copier toners, carbonless forms, and solvents.
TNCNVB	On analysis, I found Item 1 to bear traces of accelerant that are consistent with isoparaffinic products (subclass heavy) and Item 2 to bear traces of accelerant that are consistent with normal alkanes products (subclass heavy).
U67FF9	Item 1 - Analyzed using passive headspace technique based upon ASTM 1412 the sample extract produced a pattern that was classified as a medium isoparaffinic product. This classification includes materials such as some charcoal starters, some paint thinners and copier toners. Item 2 - Analyzed using passive headspace technique based upon ASTM 1412 the sample extract produced a pattern that was classified as heavy n-alkane product. Examples of materials in this classification include some candle oils, some copier toners and NCR papers.
U7H2SB	Exhibit A was a control sample submitted for possible comparison purposes. Exhibit B was examined for the presence of ignitable liquid residues. A medium petroleum product was detected. Examples of medium petroleum products are some charcoal starters and some paint thinners. Exhibit C was examined for the presence of ignitable liquid residues. A medium to heavy petroleum product was detected. Examples of medium to heavy petroleum products are some candle oils and some copier toners.
U7JNSV	An isoparaffinic product was identified in specimen Q1 (Item 1), examples of which include isopar H and Isopar K. A normal alkane product consistent with Norpar 13 was identified in specimen Q2. Uses of isoparaffinic and normal alkane products include specialty solvents, some copier toners and fuels. Specimen K1 (Control Bag) was also analyzed with negative results. The specimens were extracted using passive adsorption/elution and heated headspace techniques then analyzed by gas chromatography-mass spectrometry.
UG8BPJ	Item 1 contained ignitable liquid residue categorized by the ASTM 1618-06 Standard as an isoparaffinic product in the light n-alkane range. Examples include certain aviation fuels and specialty solvents. Item 2 contained ignitable liquid residue categorized by the ASTM 1618-06 Standard as a normal alkane

TABLE 4

WebCode	Conclusions
	product containing low to medium range alkanes from C10-C15. Examples of these products are certain specialty solvents, candle oils and copier toner.
UH1FTS	Traces of an organic mixture containing isoparaffins were recovered from Item 1. Traces of an organic mixture containing normal alkanes were recovered in Item 2. Nothing of significance was found from the Control Bag with respect to the recovery of fire accelerant residues. Isoparaffins and normal alkanes are flammable organic solvents.
UNBH4M	Exhibit 1 - Isoparaffinic product, examples of which are some brands of charcoal starter fluids and odorless mineral spirits. Exhibit 2 - Normal alkanes, examples of which are some lamp oils, some solvents for insecticides and polishes. Exhibit 3 - Used for comparison to Exhibit 2 and Exhibit 3.
UNWWTZ	The control sample and the two suspected incendiary devices from the attic (Item 1) and the kitchen (Item 2) were analyzed for the presence of ignitable liquids using gas chromatography/mass spectrometry (GC/MS). No ignitable liquids were detected in the control sample. An isoparaffinic product (medium range) was detected in the sample from the attic (Item 1). A normal alkane product (medium to heavy range) was detected in the sample from the kitchen (Item 2). Examples of isoparaffinic products (medium range) include some charcoal starters, paint thinners, and copier toners. Examples of normal alkane products (medium to heavy range) include some candle oils, copier toners and carbonless forms.
UYC1LG	Analysis of sample #1 from attic revealed the presence of an isoparaffin product. Products in this range include, but are not limited to: some charcoal starters, some copier fluids, some aviation gasoline, some lamp oils, some solvents for insecticides and polishes and some camping fuels. Analysis of sample #2 from kitchen revealed the presence of a normal alkane range product. Products in this range include, but are not limited to: some lamp oils, some solvents for insecticides and polishes and other specialty products.
UYL43N	Item 1: The white piece of fabric contains a medium range isoparaffinic ignitable liquid residue. Item 2: The white piece of fabric contains a medium range normal alkane ignitable liquid residue. An ignitable liquid residue was not detected on the piece of fabric in the control bag (Item 3).
V1BSYN	Item #1 contained residues consistent with the isoparaffinic product class of ignitable liquids. Example of this class of ignitable liquids include: some charcoal starters, some copier toners, some aviation gasolines, some paint thinners and some specialty/industrial solvents. Item #2 contains residues consistent with the normal alkane product class of ignitable liquids. Examples of this class of ignitable liquids include: specialty products formulated for normal alkanes, some candle oils and copier toner. No ignitable liquid residues were detected in the control bag.
VD6NUU	Item 1: The submitted sample was analyzed using a passive headspace technique and gas-liquid chromatography/mass spectrometry (GC-MS). A medium isoparaffinic product was identified. Examples of this type of ignitable liquid include some charcoal starters, some paint thinners and some copier toners. Item 2: The submitted sample was analyzed using a passive headspace technique and gas-liquid chromatography/mass spectrometry (GC-MS). A medium-heavy normal alkane product consisting on[sic] C11- C15 normal alkanes was identified. Examples of this type of ignitable liquid include some candle oils, copier toners and carbonless forms.
VDM4M2	Item 1 - A Medium Range Isoparaffinic Product was detected. Examples of some Medium Range Isoparaffinic Products may include, but are not limited to some charcoal starters, paint thinners and copier toners. Item 2 - A Heavy Range N-Alkane Product was detected. Examples of some Heavy Range N-Alkane Products may include, but are not limited to some candle oils, carbonless forms and copier toners. Control Bag - No ignitable liquid residues were detected.
VEZJAA	Item 1: Medium Isoparaffinic Product found, some examples include some charcoal starters, paint thinners and copier toners. Item 2: Heavy N-Alkanes Product found, some examples include candle oils and copier toners.
VNR1MY	Item 1 was found to be a white cloth which was examined for the presence of ignitable liquid residues and medium isoparaffinic product was detected. Item 2 was found to be a white cloth which was examined for the presence of ignitable liquid residues and heavy normal alkanes product was detected. Examples of medium isoparaffinic products include some copier toners, some charcoal starters and some paint thinners. Examples of heavy normal alkanes products include some candle oils, carbonless forms and copier toners.

TABLE 4

WebCode	Conclusions
VRT2PG	I found the presence of Isoparaffinic products, subclass medium in the cloth "Item 1" and the presence of Normal Alkanes Products, subclass medium to heavy in the cloth "Item 2".
VY8L6V	Residues of a medium isoparaffinic product were identified as specimen Q1 (Item 1). Examples of commercial uses of medium isoparaffinic products include some charcoal starters, some paint thinners, and in some copier toners. Residues of a heavy normal-alkanes product were identified on specimen Q2 (Item 2). Examples of commercial uses of a heavy normal-alkanes product include some candle oils, in carbonless forms, and in some copier toners. No ignitable liquid residues were identified on specimen Q3 (control bag).
VYQQPT	Item 1: Branched alkanes without any cycle alkanes aromatics or condensed ring aromatics were discovered. It's a medium isoparaffinic product. Item 2: Only n-alkanes (range C11 to C15) were discovered in this item. It's an heavy n-alkanes product.
VZ1FRK	Item 1: A medium volatility hydrocarbon fraction, consisting predominantly of isoparaffinic hydrocarbons was detected in the contents of this item. Item 2: A medium to low volatility hydrocarbon fraction, consisting of C11-C15 normal-alkane hydrocarbons, was detected in the contents of this item. Item 3: The contents of this item were examined for the presence of ignitable liquid residues and none were detected.
W3K4M3	Item 1: A specialty product was identified. Examples of this product are some charcoal starters, some paint thinners, and some copier toners. Item 2: A specialty product was identified. Examples of this type [sic] product are candle oils, NCR papers, + copier toners. A control item was also submitted for analysis. No ignitable liquids were identified.
WBW3GD	Control bag: No flammable or combustible liquids were detected. Item 1: A medium isoparaffinic product found. Some examples of medium isoparaffinic products are some charcoal starters, some paint thinners, and some copier toners. Item 2: A heavy normal alkanes product found. Some examples of a heavy alkanes are some candle oils, copier toners and carbonless forms.
WG3W9P	No ignitable liquids were identified in the control. Item 1 was found to contain a medium isoparaffinic product. Examples may include but are not limited to some charcoal starters, some paint thinners, and some copier toners. Item 2 was found to contain a heavy normal alkane product. Examples may include but are not limited to some candle oils, some NCR papers, and some copier toners.
WHXJNC	Item 1 was a suspected incendiary device from the attic and was found to be positive for residues of Isopar H or K. Item 2 was a suspected incendiary device from the kitchen and was found to be positive for residues of Norpar 13.
WMT227	Examination of the "incendiary device from the attic" (Item 1) revealed the presence of a medium petroleum product, examples of which include charcoal lighter fluids, mineral spirits, and paint thinners. Examination of the "incendiary device from the kitchen" (Item 2) revealed the presence of a heavy petroleum product, examples of which include lamp oils, lubricants, and specialty products. Examination of the terry cloth substrate (control) did not reveal the presence of an ignitable liquid residue.
WMT6JM	Examination of Item #1 revealed the presence of an isoparaffinic product. Isoparaffinic products include some charcoal starters and some paint thinners. Examination of Item #2 revealed the presence of a n-alkane product. N-alkane products include some candle oils and some copier toners. Examination of the control bag failed to reveal the presence of an accelerant.
WRL6TQ	The analysis of Item 1 revealed the presence of an Isoparaffinic product. Examples include some charcoal starters and paint thinners. The analysis of Item 2 revealed the presence of a normal alkane product. Examples include some candle oils and copier toners.
WV485N	Item #1 - Isoparaffinic Product. Item #2 - Normal Alkane. Examples of isoparaffinic products are some charcoal starters and paint thinners. Examples of normal alkanes are candle oils.
WWF49S	Exhibits 1 and 2 and the control bag were analyzed by gas chromatography-mass spectrometry for the presence of ignitable liquids. A heavy normal alkane product, which is an ignitable liquid, was identified in Exhibit 2. Examples of heavy normal alkane products include some candle oils, some polishes, and some copier toners. No ignitable liquids were detected in Exhibit 1 or the control bag.
WZ5BYV	Analysis conducted on Item 1 disclosed the presence of ignitable liquid from the medium isoparaffinic

TABLE 4

WebCode	Conclusions
	products class. Examples of this class include some charcoal starters, some paint thinners, and some copier toners. Analysis conducted on Item 2 disclosed the presence of ignitable liquid from the heavy normal-alkanes products class. Examples of this class include some candle oils, some copier toners, and carbonless forms. No ignitable liquid was detected in Item 3. This does not preclude the possibility that those types of liquids were present at an earlier time.
X2GWPG	Item 1 contains a medium isoparaffinic product. Isoparaffinic products are used as charcoal lighter, solvent, and feedstock. Item 2 contains a heavy normal alkane product. Normal alkane products are used as lamp oil, solvent, and feedstock.
X3FN7G	The flammable liquid found in the attic differs from the one found in the kitchen. In the attic a kind of "specialty solvent" was found, in the kitchen a kind of "lamp oil".
XB69DE	Traces of ignitable liquid, classified as Medium Isoparaffinic Products, were detected in the "Incendiary Device" from the attic (Item 1). Traces of ignitable liquid, classified as Heavy Normal Alkanes Products, were detected in the "Incendiary Device" from the kitchen (Item 2). No ignitable liquid residue was detected in the Nylon evidence bag with terrycloth substrate.
XK16Q3	Item 1 - Isoparaffinic products which it can either be charcoal starters, paint thinners or copier toners. Item 2 - normal alkanes products which it can either be candle oils or copier toners.
XLCD2P	An ignitable liquid residue consistent with a medium isoparaffinic product was identified in Item 1. Examples of the isoparaffin class of ignitable liquids include some charcoal starters, some aviation fuels, some copier fluids, some lamp oils, some solvents for insecticides and polishes, and some camping fuels. An ignitable liquid residue consistent with a heavy normal alkanes product was identified in Item 2. Examples of the normal alkanes class of ignitable liquids include some candle oils, some carbonless forms, and some copier toners.
XR2R3C	Item 1: GC/MS chromatogram contains only branched chained alkanes whose n-alkane range of C9 to C12 (medium). Total ion chromatography, extracted ion chromatogram for alkane and extracted ion chromatogram for cycloparaffin shows similar pattern. It is classified as "Isoparaffinic Product". Item 2: GC/MS chromatogram contains exclusively straight chain alkanes. It consists of four peaks in the range of C12 to C15 (Heavy). Thus it is classified as "Normal Alkanes Product".
XV22YC	[No Conclusions Reported.]
Y1NEAK	Item 1 - Unburned white cloth. Isoparaffinic product, exampl[sic] of which are some brands of charcoal starter fluids and odorless mineral spirits. Item 2 - Unburned white cloth. Normal alkanes. Item 3 - Unburned white cloth control. No flammable or combustible liquids were found.
Y2ZJY4	A medium petroleum distillates was identified within Item 1 (suspected incendiary device from the attic). Examples of medium petroleum distillates include some charcoal starters, some paint thinners and some cleaning solvents. A miscellaneous flammable substance (C12-C14) was identified within Item 2 (suspected incendiary device from the kitchen[sic]).
Y3E8G2	Items 1 and 2 were examined for hydrocarbon fire accelerants e.g. petrol, white spirit, paraffin oil and diesel oil. No such accelerants were detected in Items 1 and 2. A hydrocarbon mixture predominantly in the carbon range of C12-C14 was detected in Item 2.
Y43G8X	Item 1, analysis by gas chromatography mass-spectrometry revealed the presence of a medium range naphthenic paraffinic product. Examples may include charcoal starter, some automotive products and lamp oil. Item 2, analysis by gas chromatography-mass spectrometry revealed the presence of a medium-heavy range normal alkane product. Examples may include candle oils, copier toners and vinyl flooring.
YC4XDQ	Each piece of cloth collected at crime scene contains different ignitable liquid in high amount: In Item 1, medium isoparaffinic products were found on the piece of cloth sampled in the attic. This sort of product included some charcoal starters, some thinners... In Item 2, heavy normal-alkenes products (C10 to C15) were found on the piece of cloth sampled in the kitchen. (C13 is the majority compound). This sort of product included some combustible for mobile heating, some candle oils... No ignitable liquid was found on the control bag.
YM4286	In the sample received and labeled as Item 1, it was detected the presence of one mixture which can be

TABLE 4

WebCode	Conclusions
	classified in the scheme proposed by the ASTM E 1618-06 Standard Methods as Medium Isoparaffinic Products (charcoal lighter). 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 1618-06 Standard Methods as "Medium to Heavy" Normal-Alkanes Products (see additional comments N°3). In the sample received and labeled as "Control Bag" it was detected the presence of one mixture which can be classified in the scheme proposed by the ASTM E 1618-06 Standard Methods as Heavy Petroleum Distillates, with signals of chromatography peaks above 8500 of abundance (see additional comments N°2). The charcoal lighter and the "Medium to Heavy" Normal-Alkanes Products are ignitable liquids. Ignitable liquid may start or accelerate a fire.
YQMM8L	001: Analysis of an activated charcoal strip extract by GC and GC/MSD was consistent w/ a medium isoparaffinic product. Products in this class include, but are not necessarily limited to: some charcoal starters, some paint thinners, and some copier toners. 002: Analysis of an activated charcoal strip extract by GC and GC/MSD was consistent w/ a medium/heavy normal alkane product. Products in this class include, but are not necessarily limited to: some candle oils and some copier toners.
YR28K8	Items 1, 2 and Control Bag were analyzed by Gas Chromatography-Mass Spectrometry (GC-MS). The Item 1 extract contained a medium petroleum product which can be found in, but not limited to, some paint thinners and insect sprays. The Item 2 extract contained a mixture of dodecane, tridecane, and tetradecane which can be found in, but is not limited to, some lamp and candle oils. No ignitable liquids were identified in the Item Control Bag extract.
YZ9SZX	In both samples which were sent for the analysis traces of flammable liquids were detected. In "Item 1" traces of "medium isoparaffinic product" are present. Such mixtures are sold and used mostly as solvents, paint thinners, copier toners and charcoal starters. In "Item 2" traces of "heavy normal alkanes product" are present. Such products are sold and used mostly as lamp oils, solvents and copier toners.
Z1K2BV	The submitted evidence (Items 1, 2 and control) was extracted onto carbon strips for future examination. These charcoal extracts were transported to another laboratory for gas chromatographic/mass spectral analysis. A report containing the results of that examination will be forwarded to your agency.
Z9RTTE	Item 1 comprised a piece of cloth which was found in the attic, sealed in a nylon evidence bag. Medium Isoparaffinic Product residues were recovered from the item. A Medium Isoparaffinic Product consists of n-alkanes in the range of C8-C13, with examples including some charcoal starters and paint thinners. Item 2 comprised a piece of cloth which was found in the kitchen, sealed in a nylon evidence bag. Medium to Heavy Normal Alkane Product residues were detected from the item. A Medium to Heavy Normal Alkane Product consists of n-alkanes in the range of C10-C15, with examples including some candle oils and copier toners. Item 3 (Control Bag) comprised of a piece of cloth sealed in a nylon evidence bag. No common ignitable liquid residues were detected from the item.
Z9XYDG	TM1A - Control Bag. No ignitable liquids were identified. TM1B - Item 1. An isoparaffinic product, medium range, ignitable liquid was identified. Examples of this class include but are not limited to some paint thinners, some copier toners, and some charcoal starters. TM1C - Item 2. A normal Alkane product, heavy C12-C15 product, ignitable liquid was identified. Examples of this class include but are not limited to some candle oils, and some copier toners.
ZBZWP9	Items 1, 2 and the Control Bag were analyzed by Gas Chromatography-Mass Spectrometry (GC-MS). Item 2 was also analyzed by Gas Chromatography (GC-FID). The Item 1 extract contained a medium petroleum product which can be found in, but is not limited to, some charcoal starter fluids and insect sprays. The Item 2 extract contained dodecane, tridecane, tetradecane and pentadecane which can be found in, but is not limited to, some lamp oils. No ignitable liquids were identified in the control bag.
ZD5H8G	No flammable liquids were detected in the control bag. Item 1: A medium isoparaffinic product was detected. Examples of this type of product include some charcoal starters, some paint thinners, and some copier toners. Item 2: A medium to heavy Normal Alkane product was detected. Examples of this type of product include some candle oils and some copier toners.
ZQ22L8	We find Isoparaffinic Products in Item 1 and Normal Alkane Products in Item 2.
ZQX2MN	Volatile ignitable liquids were identified in Items 1 and 2. No volatile ignitable liquids were identified in the Control Bag. A medium isoparaffinic product was identified in Item 1. These may be found in

TABLE 4

WebCode	Conclusions
ZRFUWV	commercial products such as charcoal starters, paint thinners, and copier toners. A medium to heavy normal alkane product was identified in Item 2. These may be found in commercial products such as lamp oils and copier toners.
ZYNMSL	Gas chromatographic - mass spectral (GC-MS) analysis of Item #1 showed the presence of a medium isoparaffinic product, which includes but is not limited to some charcoal lighter fluids, some paint thinners, and some copier toners. GC-MS analysis of Item #2 showed the presence of a heavy normal alkane product, which includes but is not limited to some lamp oils and some copier toners. Analysis of Item 1 revealed the presence of an isoparaffinic product. Examples of this class include some charcoal starters, some paint thinners, and some copier toners. Analysis of Item 2 revealed the presence of a normal-alkane product. Examples of this class include some candle oils, carbonless forms, and some copier toners.

Additional Comments

TABLE 5

WebCode	Additional Comments
1NCV4W	No traces of flammables liquids residue detected in the Control bag.
1UXEFQ	An isoparaffinic product, of low abundance, was detected in Item #1. However, the pattern was below reportable limits, according to laboratory policy.
1ZGVDA	Verbal description of possible flammables w/ submitting agency.
26XQU4	Had this been an actual case submission, it would not have been accepted due to improper packaging.
331QR7	The laboratory does not use the ASTM E 1618-06 classification system for reporting this type of analysis. The substances present on Items 1 and 2 appear to be different.
3B6D5K	Item 1 (LAB1-1) was received without any headspace in the package (deflated). Item 2 (LAB1-2) and Item 3 (LAB1-3) did have headspace within the package. Additional samples of Item 1 were requested. Two more samples labeled Item 1 were received (LAB2 and LAB3). Analysis of each of the three samples of Item 1 demonstrated essentially the same results with LAB1-1 being slightly weathered. Item 1 is a medium range isoparaffinic product. It has the characteristics of in-house laboratory standard Isopar H (Isopar K is closely related as well). Another in-house standard, "Truly Fine" nail polish remover, is comparable to Item 1 as well as to Isopar H. The National Center for Forensic Science, Ignitable Liquid Data Base, was checked for isoparaffinic products that are similar to Item 1. Their SRN 0119, Exxon Isopar H standard appears to be most comparable. Item 2 is a heavy normal alkane product and characteristics of a lamp/candle oil. The National Center for Forensic Science, Ignitable Liquid Data Base, was checked for normal alkane products that are similar to Item #2. Their SRN 0078, Exxon Norpar 13 standard appears to be most comparable. The control bag with a terrycloth substrate (LAB1-3) showed no detectable compounds (no nylon bag components such as caprolactam was detected).
4DFM29	An in-house carbon strip control was run on the GC/MS as well, showing that the carbon strips used were not contaminated. This control sample was placed in a clean pint metal can and treated in the same fashion as the other three items (same time in the oven, same temperature, etc...). No ignitable liquids were detected in the in-house control.
4NZ5BA	Item 2: A product of similar composition is Norpar 13, which has a variety of applications including use as an industrial solvent and in some lamp oils.
59SNU7	Item 2 contained prominent C12, C13, and C14 peaks, with minor C11 and C15 peaks. ASTM E 1618-06, section 10.1.3.2, denotes the medium range "C8-C13; narrow range products, the majority of the pattern occurs in the range of C8-C13, no major peaks associated with the ignitable below C7 or above C14." Item 2 was reported as a medium subclass based on this criteria. The description at the top of page 2 of this form describing the subclass range (i.e. "Medium (C8-C13)" is incomplete.
5H3QF8	The isopar detected in Item 1 is consistent with Isopar K.
6QUNH1	Item #3 is the control bag with terrycloth substrate.
6RV9HL	Our laboratory does not report subclasses on isoparaffinic products or n-alkanes.
7UCT3F	When the samples were recived[sic] by this lab two of the bags (Control bag and Item 1) were inflated, the other one (Item 2) was not.
9DS88E	No volatile compounds were detected after the analysis of the control bag with terrycloth substrate.
AM14TX	I would also contact the fire investigator as many independents do not know what either product actually is. I would ask for a possible control sample for #1 due to use of this type [sic] solvent in construction and ask about the possible presence of a lantern or liquid candle for #2.
AT5EYP	Proficiency test packaged well. There [sic] no contamination between Item 1, 2 and control sample. Depending on the outcome of the results, if the finding is found to be comparable the remaining sample will be used as a reference standard.
BB18JN	*The sample was after SPME adsorption additionally extracted with n-pentane and analyzed on GC/MS.

TABLE 5

WebCode	Additional Comments
C1ENCW	ASTM E1618-06, 10.1.3.2 states, that a medium product range is C8-C13 with no major peaks associated with the ignitable below C7 or above C14. Exhibit 08-535-02 has a medium peak range, specifically C12, C13 and C14, placing the ignitable liquid in the medium product range.
C35QHK	This analysis only determines the presence of ignitable liquids in the fire debris samples, and does not presume to specify the intended use of said liquid.
CD6LRT	Commercial applications of a medium isoparaffinic product include copier toner, paint thinner and its use as a solvent. Commercial applications of a medium to heavy normal alkane product include lamp oil and its use as a solvent and feedstock.
DNK1T1	This laboratory does not employ the ASTM classification scheme.
DTTBZ9	The isoparaffinic product in Item 1 is not known to be on the sales market in our country. However such volatiles has been seen in a certain kind of packing-material.
E1NY6Z	Nylon bags are not approved for the submission of ignitable liquids in this laboratory. Kapak heat sealer cannot adequately seal the nylon bag. Item #1 nylon bag was compromised during over night incubation @ 70°C as a result of inadequate sealing.
EFZ9YT	Analysis Scheme: Conducted simple heated headspace for light volatiles (oven @ 70C for ~30 minutes; ~0.5 mL headspace sampling). Conducted passive headspace concentration (c-strip; oven @ 70C for ~16 hours; 2uL injection).
EQBF19	The use of plastic bags is not encouraged in this agency.
EVRNR	No ignitable liquids detected in the control bag.
F7TA2H	The proficiency test was packaged well. There was no contamination between Item 1 and 2 and control sample. Depending on the outcome of the results, if the finding is found to be comparable the remaining sample will be used as a reference standard.
FXNW43	The control bag was labeled Item #3 for analysis.
H4YWDW	Item 2 - Branched alkanes such as C-3 substituted octane, C-3 substituted decane, C-2 substituted undecane. HC range elutes after nonane and before dodecane, Ref. HC range C9-C12. Item 3[sic] N-alkanes major dodecane, tridecane and tetradecane (minimal C-11 undecane and C-15 pentadecane).
J674LV	A copy of the ASTM E1618-06 Table 1 Ignitable Liquid Classification Scheme is attached to all reports.
MARAQ8	This laboratory reports out light, medium and heavy range ignitable liquids and gasoline only. I do not report according[sic] to the ASTM 1618-06.
MHSMNQ	No ignitable liquids were identified in the control bag.
MM3VVM	The control bag is listed as Item 3.
NBY5MK	We have an informational sheet similar to Table 1 "Ignitable Liquid Classification Scheme" in ASTM E1618-06, which we send along with the report.
NLM84E	Proficiency test was properly packaged and there was no contamination between Item 1, 2 and control sample. Item 1 and 2 were soaked with different flammable substances and can be concluded that the find was incendiary.
NVCU9C	Proficiency test was packaged well. There was no contamination between Item 1, 2 and control sample. Depending on the outcome of the results, if the finding is found to be comparable the remaining sample will be used as a reference standard.
NX3NXL	The laboratory does not use the ASTM E 1618-06 ignitable liquid classification scheme. The detected hydrocarbons have been classified based on in-house procedures.
PDYPZK	The bag containing Item 2 was not adequately sealed.
PMDA8P	I found a low level pattern consistent with a heavy petroleum distillate in the control sample, but it was too low to confirm.

TABLE 5

WebCode	Additional Comments
Q1CKFT	In our country there aren't products which have same component distribution. The chromatogram of the second sample fairly corresponds with the chromatogram on the page 337 of the book of "Fire Debris Analysis" by Eric Stauffer. This sample can be classified to "Medium to Heavy" normal alkanes product too, because the major components have a narrow boiling point range between C12-14.
QBX4E	Item 1 was far too weak to identify anything. There was either nothing put on the piece of cloth or it had all evaporated.
QPK1Y2	The ignitable liquids detected in the samples have not been encountered in case work samples.
QQV8DB	Item 1 was slightly different to white spirit, perhaps a result of its North American, rather than European origin. Possibly Stoddart solvent, though no reference available. Item 2 contained trace amounts of a medium isoparaffinic product similar to that in Item 1, suggesting contamination in transit. Control was received flat, indicating seal had failed.
QVNFJ	For #2 the question was whether to place it in the "medium" or "heavy" category. In 10.1.3.2 of ASTM E 1618 states the range for a "medium" is C8-13 with "no major peaks associated with the ignitable below C7 or above C14". In #2 the dominant peaks are C12, C13, and C14. The peak at C15 is minor, therefore "medium" is the better designation.
RVGKQJ	Comment for the result of Item 1: From the analysis we find a medium isoparaffinic product. We do not have knowledge of a product like this and therefore we have to conclude like reported.
SMH2PU	This laboratory is non-US laboratory. We do not possess a standard that was directly comparable to Items 1 and 2. Item 1 was detected at trace levels. A check of the packaging did not disclose any holes.
TASF9P	The identification of an ignitable fluid in a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature.
VNR1MY	The control bag was found to contain a white cloth which was examined for the presence of ignitable liquid residues but none was detected.
VZ1FRK	Item 2: A product of similar composition is Norpar 13, which has a variety of applications including use as an industrial solvent and in some lamp oils.
WWF49S	The appropriate term for the cloth material is "comparison sample", not "control bag". The cloth is being used as the comparison, not the bag. "Control" implies something from a known environment with a known history, which is not the case for the cloth.
XK16Q3	Proficiency test packaged well. There was no contamination between Item 1 + 2 and control sample. Depending on the outcome of the results; if the finding is found to be comparable the remaining sample will be used as a reference standard.
Y3E8G2	We would not often see these chromatographic patterns in samples submitted. The classification supplied is not one that we use. We use petrol (gasoline), white spirit, paraffin oil, diesel oil and miscellaneous comparative controls as supplied.
Y43G8X	Item 1 and Item 2 contained an ignitable liquid residue.
YM4286	1. Additionally to the control bag that you sent, in the process of aperture and preparation of samples, was made a control sample of work's laboratory area, it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-06 Standard Methods.[sic] 2. Accordingly to our practical procedures the signals of chromatography peaks below 8500 of abundance in the analysis of ignitable liquid are not reported. 3. Although; in the Item 2, signals of chromatography peaks was detected with retention time which fit to "Medium to Heavy" Normal-Alkane Products according to the scheme proposed by the ASTM E 1618-06 Standard Methods, this products have at carbon number range between C11-C16. This class includes products used for solvent, feedstock and lamp oil.
YR28K8	Item Control Bag = the submitted "control bag with terrycloth substrate".
YZ9SZX	In the "control sample" (control bag) considerable amount of gasoline mixed with some heavy petroleum distillate were found.
Z9RTTE	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. 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

TABLE 5

WebCode	Additional Comments
	a flash point above 38°C. Both are capable of forming a flammable vapour/air mixture. 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. 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.
ZD5H8G	Our laboratory would not normally report our conclusions as above [See Table 4: Conclusions]. We follow the ASTM E 1387-95 guidelines and both Items 1 and 2 would fall into Class 0 Unclassified. Examples of each product would be given.
ZRFUWV	The solution from the extract of Item 1 had to be concentrated to produce an identifiable chromatograph.
ZYNMSL	For these two particular classes, the subclass is written in our laboratory notes as part of our casework. As you can see, the subclass is not mentioned in the wording of our conclusions. But the corresponding examples are given accordingly.

Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program

Test No. 08-536: Flammables Analysis

DATA MUST BE RECEIVED BY November 17, 2008 TO BE INCLUDED IN THE REPORT

Participant Code:

Web Code:

Scenario:

Police are investigating a suspected arson at a residence. Two pieces of cloth, suspected of being used to start the fire, were found in different areas of the residence by the first response fire department units. They immediately sealed the cloths within nylon evidence bags. The police are requesting you to identify any flammable liquid(s) that may be present on the cloths.

A sealed, unused nylon bag has been included in the sample pack as a control sample. It contains a cloth substrate comparable to that of the recovered cloths.

Items Submitted (Sample Pack FL):

Control Bag: Control Bag with terrycloth substrate.

Item 1: Suspected Incendiary Device from the attic.

Item 2: Suspected Incendiary Device from the kitchen.

ASCLD/LAB Release

If your lab has been accredited by ASCLD/LAB and you are submitting this data as part of their external proficiency test requirements, have the Lab Director or Quality Assurance Manager complete the following. ***The information below must be completed in its entirety for the results to be submitted to ASCLD/LAB.***

ASCLD/LAB Legacy Certificate No _____ ASCLD/LAB International Certificate No. _____

Signature _____ Date _____

Laboratory Name _____

Location (City/State) _____

1.) Using the ASTM E 1618-06 Ignitable Liquid Classification Scheme, indicate the class for any flammable substance 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.

Class	Item 1 Subclass	Item 2 Subclass
Gasoline	<input type="checkbox"/>	<input type="checkbox"/>
Petroleum Distillates (including De-Aromatized)	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Isoparaffinic Products	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Aromatic Products	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Naphthenic Paraffinic Products	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Normal Alkanes Products	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Oxygenated Solvents	<input type="checkbox"/> _____	<input type="checkbox"/> _____
Others - Miscellaneous	<input type="checkbox"/> _____	<input type="checkbox"/> _____

2.) Flammable Recovery Techniques

Adsorption/Elution

Adsorbent: Carbon/Charcoal
 Other: _____

Static ____ Dynamic ____

Desorption: Solvent: _____
 Thermal

Headspace

Room Temperature
 Heated (Temperature: _____°C)

Other

Specify: _____
Specify: _____

3.) Flammable Identification Techniques

Indicate the technique(s) used to identify any flammables detected.

GC GC/MS Other (specify): _____

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

5.) Additional Comments

Return Instructions

Participant Code:

Data Sheets can be mailed or faxed (please include a cover sheet) and must be received by **November 17, 2008** to be included in the report.

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