



Flammables Analysis Test No. 15-536 Summary Report

This proficiency test was sent to 371 participants. Each sample set consisted of two nylon bags containing an unburned piece of terry cloth "wick" to which an ignitable liquid had been added (Items 1 and 2), and a sealed nylon bag with a clean piece of the same type of terry cloth "wick" to use as a control (Item 3). Data were returned from 309 participants (83.3% 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 set consisted of three items: two nylon bags that each contained a terry cloth "wick" to which an ignitable liquid had been added, and one nylon bag containing a sample of the same type of terry cloth "wick" which was provided to participants as a negative, control sample. The nylon bags used in this test were produced by the Grand River Products company. Participants were requested to identify and indicate the class for any ignitable liquid(s) detected in the submitted items.

SAMPLE PREPARATION-

The terry cloth "wick" in the Item 1 bag contained a product labeled as Klean Strip Pure Gum Spirits Turpentine. The terry cloth "wick" in the Item 2 bag contained gasoline (89 octane). The turpentine was purchased from a local home improvement store in June 2015. The gasoline was purchased at a local gas station and was stated to contain 10% ethanol.

ITEM 3 (COMPARISON BLANK): The clean, cotton terry cloth was prepared by cutting it into 2" x 2" squares. One terry cloth swatch was dropped into a previously opened 5" x 10" nylon 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. This bag was then placed in a pre-labeled 6" x 12" nylon bag and double heat-sealed across the top. After sealing, each bag was inspected to determine if it contained an adequate amount of air space. The item was stored separately from other items until the complete sample sets were put together.

ITEMS 1 and 2 (PREPARATION): The clean, cotton terry cloth was prepared by cutting it into 2" x 2" squares. The two items were prepared and packaged separately. One terry cloth swatch was held inside a 5" x 10" nylon bag and 25 μ l of the designated flammable substance was pipetted on top of the cloth two times for a total of 50 μ l. 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. This bag was then placed in a pre-labeled 6" x 12" nylon bag and double heat-sealed across the top. After sealing, each bag was inspected to determine if it contained an adequate amount of air space. The items were stored separately until the complete sample sets were packaged.

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

VERIFICATION: Laboratories that conducted predistribution analysis of the items classified the ignitable liquid in Item 1 as medium other-miscellaneous and Item 2 as gasoline. These liquids were classified using the ASTM classification scheme.* Item 1 was further identified as turpentine.

*Source: ASTM E 1618-11, Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectrometry, Table 1.

Summary Comments

This test was designed to allow participants to assess their ability in the extraction and identification of ignitable liquids on unburned pieces of terry cloth "wick" substrate packaged in nylon bags. Participants were provided with three items: two nylon bags that each contained an unburned piece of terry cloth "wick" spiked with a different ignitable liquid and one nylon bag that contained an unburned piece of terry cloth "wick" that was not spiked, which was provided as a comparison blank. The terry cloth "wick" in the Item 1 bag contained a product labeled as Klean Strip Pure Gum Spirits Turpentine. The terry cloth "wick" in the Item 2 bag contained gasoline (89 octane) that was stated to contain 10% ethanol. (Refer to the Manufacturer's Information for preparation details.)

Of the 307 participants who reported classification results for Item 1, 296 (96.1%) classified the ignitable liquid as belonging to the others-miscellaneous classification. Of the remaining 11 participants, 7 reported "no ignitable liquid(s) detected", 1 reported gasoline, and 3 reported others-miscellaneous and another classification.

Of the 309 participants who reported classification results for Item 2, 255 (82.5%) classified the ignitable liquid as belonging to the gasoline classification. The liquid found in Item 2 was classified as both gasoline and petroleum distillates by 24 participants, other-miscellaneous by 19 participants, and petroleum distillates by 6 participants. Of the remaining 5 participants, 1 reported "no ignitable liquid(s) detected", 2 participants classified the ignitable liquid as belonging to the aromatics classification and 2 reported gasoline and another classification.

Flammable Identification

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

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|------------------------|--------------------------------|
| 23FAUX | Others - Miscellaneous | Medium |
| 26LXQE | Others - Miscellaneous | medium |
| 2CAC3Z | Others - Miscellaneous | medium range |
| 2TP2K7 | Others - Miscellaneous | Medium (C8-C14) |
| 3234P8 | Others - Miscellaneous | Turpentine |
| 37WZEY | Others - Miscellaneous | medium |
| 382UM4 | Others - Miscellaneous | Medium |
| 39J3CC | Others - Miscellaneous | Turpenes related to turpentine |
| 3FWQVZ | Others - Miscellaneous | Medium |
| 3L9R24 | Others - Miscellaneous | medium |
| 3PLGF7 | Others - Miscellaneous | Medium |
| 3PLLNN | Others - Miscellaneous | MEDIUM |
| 3RCDBR | Others - Miscellaneous | Medium |
| 3T7DX6 | Others - Miscellaneous | Medium |
| 3WPPN | Others - Miscellaneous | Medium |
| 3WTBR9 | Others - Miscellaneous | Turpentine product |
| 3XEUDK | Others - Miscellaneous | Medium |
| 42EDYJ | Others - Miscellaneous | medium |
| 42UQBA | Others - Miscellaneous | Medium |
| 447MHE | Others - Miscellaneous | Medium |
| 44MZLH | Others - Miscellaneous | Medium |
| 46GX66 | Others - Miscellaneous | medium |
| 4GAKBZ | Others - Miscellaneous | MEDIUM |
| 4HLERZ | Others - Miscellaneous | Medium |
| 4LY9LC | Others - Miscellaneous | Medium |
| 4N8GN6 | Others - Miscellaneous | Medium |
| 4NQZXH | Aromatic Products | |
| | Others - Miscellaneous | |
| 4QG8AR | Others - Miscellaneous | medium |
| 4T32Z2 | Others - Miscellaneous | |
| 4W3EJK | Others - Miscellaneous | medium to heavy |
| 4WNNVA | Others - Miscellaneous | |
| 4XXH7K | Others - Miscellaneous | Terpene based product |
| 4XXN32 | Others - Miscellaneous | Terpenes |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---------------------------------|-----------------------|
| 4YRQEJ | Others - Miscellaneous | Medium |
| 62EKX6 | Others - Miscellaneous | Turpentine (terpenes) |
| 63NKZR | Others - Miscellaneous | medium |
| 64KZCN | Others - Miscellaneous | Medium |
| 68EYH8 | No Ignitable Liquid(s) Detected | |
| 6BYXRV | Others - Miscellaneous | Medium (C8-C13) |
| 6G4P4D | Others - Miscellaneous | medium/ terpenes |
| 6JT4NG | Others - Miscellaneous | Medium |
| 6MRG9L | Others - Miscellaneous | Medium |
| 6NL3ZR | Others - Miscellaneous | Medium |
| 6QQL7Z | Others - Miscellaneous | Turpentine products |
| 6R2T88 | Others - Miscellaneous | medium to heavy |
| 6R8V2L | Others - Miscellaneous | Terpenes (C9-C10) |
| 73GYJ2 | Others - Miscellaneous | Medium |
| 73ZN63 | Others - Miscellaneous | Medium |
| 7A3NMK | Others - Miscellaneous | Medium |
| 7AKQ6T | No Ignitable Liquid(s) Detected | |
| | Others - Miscellaneous | TURPENTINE |
| 7F8KBQ | Others - Miscellaneous | |
| 7GHBE2 | Others - Miscellaneous | Medium |
| 7HWQVM | Others - Miscellaneous | Medium |
| 7HWZD8 | Others - Miscellaneous | medium to heavy |
| 7QMTGQ | Others - Miscellaneous | Medium terpenes |
| 7TWNEG | Others - Miscellaneous | Medium |
| 7V4EPJ | Others - Miscellaneous | Medium |
| 7Y37MG | Others - Miscellaneous | C8 - C13 , Medium |
| 7YXRDM | Others - Miscellaneous | medium |
| 7ZULBC | Others - Miscellaneous | Medium |
| 83DLRY | Others - Miscellaneous | Medium |
| 84C7V8 | Others - Miscellaneous | Medium |
| 86GCWT | Others - Miscellaneous | C8 - C13 |
| 8GDHPR | Others - Miscellaneous | Medium(C8-C13) |
| 8JN8KP | Others - Miscellaneous | Medium |
| 8LDFR6 | Others - Miscellaneous | Medium |
| 8PUD6E | Others - Miscellaneous | |
| 8Q2EP8 | Others - Miscellaneous | medium |
| 8QPL6Q | Others - Miscellaneous | medium C8-C13 |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|------------------------|--------------------------------------------------|
| 8RV3AN | Others - Miscellaneous | Medium |
| 8TERPN | Others - Miscellaneous | Medium |
| 8TQNVR | Others - Miscellaneous | Turpentine |
| 8WTLCM | Others - Miscellaneous | |
| 97AM8M | Others - Miscellaneous | Medium |
| 97APWQ | Others - Miscellaneous | C8 - C13 |
| 99M7KQ | Others - Miscellaneous | terpenes |
| 9AWAU9 | Others - Miscellaneous | Medium range, specifically turpentine |
| 9MJXBE | Others - Miscellaneous | Medium |
| 9PQDJ6 | Others - Miscellaneous | Medium |
| 9QHVEY | Others - Miscellaneous | Medium |
| 9WQYML | Others - Miscellaneous | Medium |
| 9X4QF3 | Others - Miscellaneous | C7-C15 |
| 9XFK26 | Others - Miscellaneous | Medium (C8-C13) |
| A89YWN | Others - Miscellaneous | Medium |
| A9K9U8 | Others - Miscellaneous | Turpentine product |
| AAUFWZ | Others - Miscellaneous | C7-C20; Terpenes |
| ABFT7P | Others - Miscellaneous | Medium |
| AFXPGV | Others - Miscellaneous | α -Pinene (ie- α -Pinene) camphene |
| AHGXCN | Others - Miscellaneous | Medium |
| APGENE | Others - Miscellaneous | Medium |
| AQBZFK | Others - Miscellaneous | Medium |
| AQWM3A | Others - Miscellaneous | Medium |
| ARR77W | Others - Miscellaneous | Medium |
| AX2WFA | Others - Miscellaneous | Medium |
| AZ7YBZ | Others - Miscellaneous | Medium |
| B3RQT2 | Others - Miscellaneous | Medium |
| B9CDGY | Others - Miscellaneous | C7-C15 (Medium-Heavy) |
| BCBPCY | Others - Miscellaneous | Between C7-C15 |
| BCBR24 | Others - Miscellaneous | medium turpentine product |
| BPK899 | Others - Miscellaneous | Medium |
| BTLBZV | Others - Miscellaneous | TERPENES |
| BVR422 | Others - Miscellaneous | Medium to heavy |
| C3L8BC | Others - Miscellaneous | Medium (Turpentine) |
| C8BM24 | Others - Miscellaneous | Medium |
| C98AA2 | Others - Miscellaneous | Medium |
| C9LPN3 | Others - Miscellaneous | Medium to heavy |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---------------------------------|-----------------|
| CCQ9YG | Others - Miscellaneous | medium |
| CDYCFL | Others - Miscellaneous | Medium |
| CEZX3 | Others - Miscellaneous | Medium |
| CKKQHD | Others - Miscellaneous | Medium |
| CM82ZC | Others - Miscellaneous | Turpentine |
| CPAZCQ | Others - Miscellaneous | Medium |
| CWVQ6D | Others - Miscellaneous | Medium |
| CXKBJV | Others - Miscellaneous | Medium |
| CZXP HQ | Others - Miscellaneous | with disclaimer |
| D24HPB | No Ignitable Liquid(s) Detected | |
| D9M4CM | Others - Miscellaneous | Light (C4-C9) |
| DC42BB | Others - Miscellaneous | Medium |
| DEATWW | Others - Miscellaneous | |
| DF36NW | Others - Miscellaneous | Medium |
| DFKNLV | Others - Miscellaneous | light terpenes |
| DRG3TZ | Others - Miscellaneous | Medium |
| DRGKX6 | Others - Miscellaneous | Medium |
| DXQTA8 | Others - Miscellaneous | Medium Range |
| DYDC7Y | Others - Miscellaneous | medium |
| E2HH4K | Others - Miscellaneous | Medium |
| E4NB9W | Others - Miscellaneous | Medium |
| E6W92Z | Others - Miscellaneous | MEDIUM |
| E93FX Y | Others - Miscellaneous | medium |
| EDBYWR | Others - Miscellaneous | Medium |
| EJNK7Y | Others - Miscellaneous | Medium |
| ELPK7V | Others - Miscellaneous | terpene |
| EUZ3BM | Others - Miscellaneous | medium |
| EVXP3Y | Others - Miscellaneous | Turpentine |
| EW6LEA | Others - Miscellaneous | medium |
| F2FAEW | Others - Miscellaneous | medium |
| F2RXMB | Others - Miscellaneous | Medium - Light |
| F6Y4DJ | Others - Miscellaneous | C7-C13 |
| F84YTF | Others - Miscellaneous | Medium |
| FBFTMQ | Others - Miscellaneous | medium |
| FCBEDW | Others - Miscellaneous | terpenes |
| FJC6W8 | Others - Miscellaneous | |
| FQC4D4 | Others - Miscellaneous | Medium |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---------------------------------|----------------------------------------|
| FTZHX8 | Others - Miscellaneous | Turpentine Products |
| G4J3BG | Others - Miscellaneous | Medium C8-C13 |
| G8K7XW | Others - Miscellaneous | Medium |
| G9AL4Y | Others - Miscellaneous | |
| GFA4FP | Others - Miscellaneous | Medium turpentine product |
| GH6FLQ | Others - Miscellaneous | medium |
| GLH9AB | Others - Miscellaneous | Medium |
| GURQPN | Others - Miscellaneous | medium C8-C14 |
| GWJRTQ | Others - Miscellaneous | Terpenes |
| GZJZXZ | Others - Miscellaneous | |
| GZYDLX | Others - Miscellaneous | medium-heavy |
| H3KRW7 | Others - Miscellaneous | |
| H73GCW | Others - Miscellaneous | medium |
| HDMJBL | Others - Miscellaneous | C10H16 |
| HEVT4J | Others - Miscellaneous | Medium |
| HJQMY Y | Others - Miscellaneous | medium/terpenes |
| HJRDDU | Others - Miscellaneous | Medium |
| HK48VF | Others - Miscellaneous | medium |
| HQTRWA | Others - Miscellaneous | Terpenes |
| HVFTMM | Others - Miscellaneous | Medium |
| HVLUZA | Others - Miscellaneous | Terpene |
| HWER7V | Others - Miscellaneous | Medium to heavy |
| J34HEC | Others - Miscellaneous | Light to Medium |
| J498EZ | Others - Miscellaneous | Medium |
| J4TXHT | Others - Miscellaneous | medium range |
| JC7AQ6 | Others - Miscellaneous | |
| JFPWFQ | Others - Miscellaneous | medium to heavy |
| JL8G96 | Others - Miscellaneous | Medium |
| JNC8BD | Others - Miscellaneous | medium (terpenes) |
| JZ8BMK | Others - Miscellaneous | Medium |
| K64C9Y | No Ignitable Liquid(s) Detected | See conclusions [Table 4-Conclusions]. |
| K9G3N2 | Others - Miscellaneous | terpentine-type product |
| KDDJA9 | Others - Miscellaneous | Medium |
| KLZQER | Others - Miscellaneous | Medium |
| KNUWBQ | Others - Miscellaneous | Medium |
| KP4F6E | Others - Miscellaneous | Medium |
| KRCLNV | Others - Miscellaneous | Terpenes |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---------------------------------|----------------------------------------------|
| KRX22C | Others - Miscellaneous | |
| KZNNW9 | Others - Miscellaneous | Turpentine Products, Terpenes |
| L7QL6Y | Others - Miscellaneous | Medium |
| LDPKMU | Others - Miscellaneous | |
| LK6JUE | Others - Miscellaneous | medium |
| LUYJFY | No Ignitable Liquid(s) Detected | |
| LVPN97 | Others - Miscellaneous | Terpenes |
| LVU8W9 | Others - Miscellaneous | medium |
| M6B9Q9 | Others - Miscellaneous | Medium |
| M78P47 | Others - Miscellaneous | Medium C9 |
| M8GUGU | No Ignitable Liquid(s) Detected | |
| MCBNGG | Others - Miscellaneous | Medium |
| MCFMN4 | Others - Miscellaneous | Medium |
| MDRPL4 | Others - Miscellaneous | Terpenes |
| MM8QQC | Others - Miscellaneous | C8 - C13 |
| MTLCRW | Others - Miscellaneous | Medium-Turpentine prod. |
| MUAF82 | Others - Miscellaneous | Medium |
| MZFLTE | Others - Miscellaneous | medium |
| N677NG | Others - Miscellaneous | Light to Medium |
| N8CJEV | Others - Miscellaneous | medium |
| NAME8F | Others - Miscellaneous | Medium |
| NBE6YR | Others - Miscellaneous | |
| NDKVGX | Others - Miscellaneous | Medium |
| NQR4Y7 | Others - Miscellaneous | Medium (C8-C13) |
| NWEMB9 | Others - Miscellaneous | Medium |
| P6NKLJ | Others - Miscellaneous | Medium C8-C13 |
| PBDXLL | Gasoline | |
| PBQQY2 | Others - Miscellaneous | Medium |
| PDEAWR | Others - Miscellaneous | Terpenes; medium range miscellaneous product |
| PEFXN4 | Others - Miscellaneous | Medium |
| PEP6MQ | Others - Miscellaneous | Medium |
| PKZ2QZ | Others - Miscellaneous | Medium (Terpenes) |
| PQ7ULV | Others - Miscellaneous | Medium |
| PQLZYZ | Others - Miscellaneous | Light |
| PTCCLC | Others - Miscellaneous | Medium |
| PTV248 | Others - Miscellaneous | Medium |
| PU8XDH | Others - Miscellaneous | Turpentine products |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---------------------------------|-----------------------------|
| PYZWPT | Others - Miscellaneous | |
| Q42P4F | Others - Miscellaneous | Medium |
| Q7CKTT | Others - Miscellaneous | Medium |
| Q93F3G | Others - Miscellaneous | Medium |
| QHMTVK | No Ignitable Liquid(s) Detected | |
| QKQQ4R | Others - Miscellaneous | Medium (Terpenes) |
| QRUVBW | Others - Miscellaneous | Medium |
| QVA3GQ | Others - Miscellaneous | Turpentine product |
| QZNKTF | Others - Miscellaneous | Light to Medium |
| R2F9HE | Others - Miscellaneous | Medium |
| REPNTY | Others - Miscellaneous | Turpentine Prod-Terpenes |
| RLN9PU | Others - Miscellaneous | Medium |
| RN3ZLN | Others - Miscellaneous | Medium |
| RPJ6CZ | Others - Miscellaneous | Terpenes |
| RPMPZ3 | Others - Miscellaneous | Turpentine Products, Medium |
| RV9RYT | Others - Miscellaneous | Medium |
| T4GGEC | Others - Miscellaneous | Medium (terpenes) |
| T4ML32 | Others - Miscellaneous | Medium |
| T9QJG8 | Others - Miscellaneous | Medium |
| T9RMYP | Others - Miscellaneous | |
| TA4DYT | Others - Miscellaneous | MEDIUM |
| TBGTGZ | Others - Miscellaneous | terpenes |
| TCAQML | Others - Miscellaneous | Turpentine |
| TK2CLT | Others - Miscellaneous | Medium |
| TMC8GX | Others - Miscellaneous | Medium |
| TPGNMF | Others - Miscellaneous | TURPENTINE |
| TUP8MU | Others - Miscellaneous | Medium |
| TV3U69 | Others - Miscellaneous | Terpenes |
| TVJTEY | Others - Miscellaneous | |
| TXUJY2 | Others - Miscellaneous | Turpentine (Med.) |
| TY6N8J | Others - Miscellaneous | Medium |
| TYNEBC | Others - Miscellaneous | Terpenes |
| UCA24B | Others - Miscellaneous | medium range |
| UD7HG8 | Others - Miscellaneous | Medium |
| UH9KAM | Others - Miscellaneous | Medium |
| ULDEZ6 | Others - Miscellaneous | Terpenes |
| UNG4BZ | Others - Miscellaneous | Turpentine Products |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|------------------------|------------------------------|
| UTCZVK | Others - Miscellaneous | Others Miscellaneous product |
| V24Q3D | Others - Miscellaneous | Medium |
| V3DKZY | Others - Miscellaneous | |
| V3Y6XJ | Others - Miscellaneous | medium |
| V8R4AT | Others - Miscellaneous | medium |
| VAFM7K | Others - Miscellaneous | medium to heavy |
| VBV2HZ | Others - Miscellaneous | Medium |
| VC72J2 | Others - Miscellaneous | medium |
| VC8AUL | Others - Miscellaneous | |
| VECCPC | Others - Miscellaneous | Medium |
| VJ3WEE | Others - Miscellaneous | Light Terpenes |
| VJH3RH | Others - Miscellaneous | medium to heavy |
| VRD6WF | Others - Miscellaneous | Turpentine Product |
| VTPU7J | Others - Miscellaneous | Medium |
| VU6WED | Others - Miscellaneous | Medium-Turpentine Prod. |
| VWT3JM | Others - Miscellaneous | Medium range |
| VXAKU3 | Others - Miscellaneous | medium |
| W22LHF | Others - Miscellaneous | Medium |
| W3V7RF | Others - Miscellaneous | |
| W4LV6L | Others - Miscellaneous | light to medium |
| W4RF9C | Others - Miscellaneous | C8-C13 |
| W9L94R | Others - Miscellaneous | medium |
| WDVR3K | Others - Miscellaneous | medium-range |
| WF3HEM | Others - Miscellaneous | Medium |
| WMHN68 | Others - Miscellaneous | medium range |
| WVTH6L | Others - Miscellaneous | Medium |
| WZNGXJ | Others - Miscellaneous | Terpenes |
| X9WPLX | Others - Miscellaneous | Turpentine product |
| XCU2MP | Others - Miscellaneous | Medium |
| XFXPDD | Others - Miscellaneous | Medium |
| XK76PH | Others - Miscellaneous | Medium (C8-C13) |
| XP6WYL | Others - Miscellaneous | Medium |
| XRQFMJ | Others - Miscellaneous | Medium / terpenes |
| XVDX64 | Others - Miscellaneous | Medium / Turpentine products |
| XY8EBN | Others - Miscellaneous | |
| Y3L2DE | Others - Miscellaneous | medium to heavy |
| Y6B9VQ | Others - Miscellaneous | Medium (terpenes) |

TABLE 1a - Item 1

| WebCode | Item 1: Class | SubClass |
|---------|---------------------------------|-----------------------------------|
| YAQMJW | Others - Miscellaneous | Medium |
| YDP4RK | Others - Miscellaneous | Medium/Terpenes |
| YFVGHY | Others - Miscellaneous | |
| YFWERU | Others - Miscellaneous | Terpenes |
| YQ9TKV | Others - Miscellaneous | Medium |
| YTLCVD | Others - Miscellaneous | medium-range |
| YUTKWX | Others - Miscellaneous | Turpentine Products |
| YV83Y4 | Others - Miscellaneous | medium |
| YXUUU7 | Others - Miscellaneous | turpentines |
| | Oxygenated Solvents | acetone |
| Z6TJAP | Others - Miscellaneous | medium |
| ZAJLYM | Others - Miscellaneous | Turpentine products |
| ZT2P23 | Others - Miscellaneous | medium - terpenes |
| ZT2TQ7 | Others - Miscellaneous | Medium |
| ZTEUKD | Others - Miscellaneous | Terpenes associated in turpentine |
| ZZWVTH | Others - Miscellaneous | Medium Range |
| ZZWYYE | No Ignitable Liquid(s) Detected | |

| Response Summary | | Total Participants: 307 |
|---------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Item 1: Class | | |
| Others - Miscellaneous | 299 | Totals may add up to more than the total number of participants because some participants reported multiple ignitable substance classes detected. |
| No Ignitable Liquid(s) Detected | 8 | |
| Aromatic Products | 1 | |
| Gasoline | 1 | |
| Oxygenated Solvents | 1 | |

Flammable Identification

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

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|-----------------|
| 23FAUX | Gasoline | |
| 26LXQE | Gasoline | |
| 2CAC3Z | Gasoline | |
| 2TP2K7 | Gasoline | |
| 3234P8 | Gasoline | |
| 37WZEY | Others - Miscellaneous | light to medium |
| 382UM4 | Gasoline | |
| 39J3CC | Petroleum Distillates (including De-Aromatized) | C8-C13 |
| 3FWQVZ | Gasoline | |
| 3L9R24 | Gasoline | |
| 3PLGF7 | Gasoline | |
| 3PLLNN | Gasoline | |
| 3RCDBR | Gasoline | |
| 3T7DX6 | Gasoline | |
| 3VPPN | Gasoline | |
| 3WBPBY | Gasoline | |
| 3WTBR9 | Gasoline | |
| 3XEUDK | Gasoline | |
| 42EDYJ | Gasoline | |
| 42UQBA | Gasoline | |
| 447MHE | Gasoline | |
| 44MZLH | Gasoline | |
| 46GX66 | Gasoline | |
| 4FZXT7 | Gasoline | |
| 4GAKBZ | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | MEDIUM |
| 4HLERZ | Gasoline | |
| 4LY9LC | Gasoline | |
| 4N8GN6 | Gasoline | |
| 4NQZXH | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| 4QG8AR | Gasoline | |
| 4T32Z2 | Gasoline | |
| 4W3EJK | Gasoline | |
| 4WNNVA | Gasoline | |
| 4XXH7K | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Heavy |
| 4XXN32 | Gasoline | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|----------------------|
| 4YRQEJ | Petroleum Distillates (including De-Aromatized) | Medium |
| 62EKX6 | Gasoline | |
| 63NKZR | Gasoline | |
| 64KZCN | Gasoline | |
| 68EYH8 | Gasoline | |
| 6BYXRV | Gasoline | Medium (C8-C13) |
| 6G4P4D | Gasoline | |
| 6JT4NG | Gasoline | |
| 6MRG9L | Petroleum Distillates (including De-Aromatized) | Heavy |
| 6NL3ZR | Gasoline | |
| 6QQL7Z | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | traces, heavy C9-C20 |
| 6R2T88 | Gasoline | |
| 6R8V2L | Gasoline | |
| 73GYJ2 | Others - Miscellaneous | Light to Heavy |
| 73ZN63 | Gasoline | |
| 7A3NMK | Gasoline | |
| 7AKQ6T | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | medium |
| 7F8KBQ | Gasoline | |
| 7GHBE2 | Gasoline | |
| 7HWQVM | Gasoline | |
| 7HWZD8 | Gasoline | |
| 7QMTGQ | Gasoline | |
| 7TWNEG | Gasoline | |
| 7V4EPJ | Gasoline | |
| 7Y37MG | Petroleum Distillates (including De-Aromatized) | C7 - C14 , Medium |
| 7YXRDM | Gasoline | |
| 7ZULBC | Gasoline | |
| 83DLRY | Gasoline | |
| 84C7V8 | Gasoline | |
| 86GCWT | Gasoline | |
| 8GDHPR | Gasoline | |
| 8JN8KP | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| 8LDFR6 | Gasoline | |
| 8PUD6E | Gasoline | |
| 8Q2EP8 | Gasoline | |
| 8QPL6Q | Gasoline | |
| 8RV3AN | Aromatic Products | Medium |
| 8TERPN | Gasoline | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|------------------------------|
| 8TQNV | Gasoline | |
| 8WTLCM | Gasoline | |
| 97AM8M | Gasoline | |
| 97APWQ | Gasoline | |
| 99M7KQ | Gasoline | |
| 9AWAU9 | Gasoline | |
| 9MJXBE | Gasoline | |
| 9PQDJ6 | Gasoline | |
| 9QHVEY | Gasoline | |
| 9WQYML | Gasoline | |
| 9X4QF3 | Gasoline | |
| 9XFK26 | Gasoline | |
| A89YWN | Gasoline | |
| A9K9U8 | Gasoline | |
| AAUFWZ | Gasoline | |
| ABFT7P | Gasoline | |
| AFXPGV | Gasoline | |
| | Isoparaffinic Products | Light isoparaffinic products |
| AHGXCN | Others - Miscellaneous | Gasoline evapor + HPD |
| APGENE | Gasoline | |
| AQBZFK | Others - Miscellaneous | Medium |
| AQWM3A | Gasoline | |
| ARR77W | Gasoline | |
| AX2WFA | Gasoline | |
| AZ7YBZ | Gasoline | |
| B3RQT2 | Gasoline | |
| B9CDGY | Gasoline | |
| BCBPCY | Gasoline | |
| BCBR24 | Gasoline | |
| BPK899 | Gasoline | |
| BTLBZV | Gasoline | |
| BVR422 | Others - Miscellaneous | Light to medium |
| C3L8BC | Gasoline | |
| C8BM24 | Gasoline | |
| C98AA2 | Gasoline | |
| C9LPN3 | Gasoline | |
| CCQ9YG | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | heavy |
| CDYCF | Gasoline | |
| CEZX3 | Gasoline | |
| CKKQHD | Gasoline | |
| CM82ZC | Gasoline | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|-----------------|
| CPAZCQ | Gasoline | |
| CWVQ6D | Gasoline | |
| CXKBJV | Gasoline | |
| CZXP HQ | Gasoline | |
| D24HPB | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| D9M4CM | Gasoline | |
| DC42BB | Gasoline | |
| DEATWW | Gasoline | |
| DF36NW | Others - Miscellaneous | Light to Medium |
| DFKNLV | Gasoline | |
| DRG3TZ | Gasoline | |
| DRGKX6 | Gasoline | |
| DXQTA8 | Gasoline | |
| DYDC7Y | Gasoline | |
| E2HH4K | Gasoline | |
| E4NB9W | Gasoline | |
| E6W92Z | Gasoline | |
| E93FX Y | Gasoline | |
| EDBYWR | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| EJNK7Y | Gasoline | |
| ELPK7V | Gasoline | |
| EUZ3BM | Gasoline | |
| EVXP3Y | Gasoline | |
| EW6LEA | Gasoline | |
| F2FAEW | Gasoline | |
| F2RXMB | Aromatic Products | Medium |
| F6Y4DJ | Gasoline | |
| F84YTF | Gasoline | |
| FBFTMQ | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | medium |
| FCBEDW | Gasoline | |
| FJC6W8 | Gasoline | |
| FQC4D4 | Gasoline | |
| FTZHX8 | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium (C8-C13) |
| G4J3BG | Gasoline | |
| G8K7XW | Gasoline | |
| G9AL4Y | Others - Miscellaneous | |
| GFA4FP | Gasoline | |
| GH6FLQ | Gasoline | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|------------------------|
| GLH9AB | Gasoline | |
| GURQPN | Gasoline | |
| GWJRTQ | Gasoline | |
| GZJZXZ | Others - Miscellaneous | |
| GZYDLX | Gasoline | |
| H3KRW7 | Gasoline | |
| H73GCW | Gasoline | |
| HDMJBL | Gasoline | |
| HEVT4J | Others - Miscellaneous | Light to medium |
| HJQMY Y | Gasoline | |
| HJRDDU | Gasoline | |
| HK48VF | Gasoline | |
| HQTRWA | Gasoline | |
| HVFTMM | Gasoline | |
| HVLUZA | Gasoline | |
| HWER7V | Gasoline | |
| J34HEC | Gasoline | 25% |
| | Petroleum Distillates (including De-Aromatized) | MPD |
| J498EZ | Gasoline | |
| J4TXHT | Gasoline | |
| JC7AQ6 | Others - Miscellaneous | |
| JFPWFQ | Gasoline | |
| JL8G96 | Gasoline | Gasoline |
| JNC8BD | Gasoline | |
| JZ8BMK | Gasoline | |
| K64C9Y | Gasoline | |
| K9G3N2 | Gasoline | |
| KDDJA9 | Gasoline | |
| KLZQER | Others - Miscellaneous | Gasoline + HPD |
| KNUWBQ | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| KP4F6E | Gasoline | |
| KRCLNV | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| KRX22C | Gasoline | |
| KZNWN9 | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium/Heavy, Kerosene |
| L7QL6Y | Gasoline | |
| LDPKMU | Others - Miscellaneous | |
| LK6JUE | Gasoline | |
| LUYJFY | Gasoline | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|--------------|
| LUYJFY | Petroleum Distillates (including De-Aromatized) | C10-C15 |
| LVPN97 | Gasoline | |
| LVU8W9 | Gasoline | |
| M6B9Q9 | Gasoline | |
| M78P47 | Gasoline | |
| M8GUGU | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| MCBNGG | Gasoline | |
| MCFMN4 | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| MDRPL4 | Gasoline | |
| MM8QQC | Gasoline | |
| MTLCRW | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | HPD |
| MUAF82 | Gasoline | |
| MZFLTE | Gasoline | |
| N677NG | Gasoline | |
| N8CJEV | Gasoline | |
| NAME8F | Gasoline | |
| NBE6YR | Gasoline | |
| NDKVGX | Gasoline | |
| NQR4Y7 | Gasoline | |
| NWEMB9 | Gasoline | |
| P6NKLJ | Gasoline | |
| PBDXLL | Others - Miscellaneous | Medium-Heavy |
| PBQQY2 | Gasoline | |
| PDEAWR | Gasoline | |
| PEFXN4 | Gasoline | |
| PEP6MQ | Gasoline | |
| PKZ2QZ | Gasoline | |
| PQ7ULV | Gasoline | |
| PQLZYZ | Gasoline | Gasoline |
| PTCCLC | Gasoline | |
| PTV248 | Others - Miscellaneous | |
| PU8XDH | Gasoline | |
| PYZWPT | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| Q42P4F | Gasoline | |
| Q7CKTT | Gasoline | |
| Q93F3G | Others - Miscellaneous | C5-C15 |
| QHMTVK | Gasoline | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|--------------------------|
| QKQQ4R | Gasoline | |
| QRUVBW | Gasoline | |
| QVA3GQ | Petroleum Distillates (including De-Aromatized) | Medium to heavy (C9-C16) |
| QZNKTF | Gasoline | |
| R2F9HE | Others - Miscellaneous | |
| REPNTY | Gasoline | |
| RLN9PU | Gasoline | |
| RN3ZLN | Gasoline | |
| RPJ6CZ | Gasoline | |
| RPMPZ3 | Gasoline | |
| RV9RYT | Gasoline | |
| T4GGEC | Gasoline | |
| T4ML32 | Gasoline | |
| T9QJG8 | Gasoline | |
| T9RMYP | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| TA4DYT | Gasoline | |
| TBGTGZ | Gasoline | |
| TCAQML | Gasoline | |
| TK2CLT | Gasoline | |
| TMC8GX | Gasoline | |
| TPGNMF | Gasoline | |
| TUP8MU | Gasoline | |
| TV3U69 | Gasoline | |
| TVJTEY | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | heavy |
| TXUJY2 | Gasoline | |
| TY6N8J | Gasoline | |
| TYNEBC | Gasoline | |
| UCA24B | Gasoline | |
| UD7HG8 | Gasoline | |
| UH9KAM | No Ignitable Liquid(s) Detected | |
| ULDEZ6 | Gasoline | |
| UNG4BZ | Gasoline | |
| UTCZVK | Gasoline | Gasoline |
| V24Q3D | Gasoline | |
| V3DKZY | Gasoline | |
| V3Y6XJ | Gasoline | |
| V8R4AT | Gasoline | |
| VAFM7K | Gasoline | |
| VBV2HZ | Gasoline | |
| VC72J2 | Gasoline | |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|---------------------------------------------------------|
| VC8AUL | Gasoline | |
| VECCPC | Gasoline | |
| VJ3WEE | Gasoline | |
| VJH3RH | Gasoline | |
| VRD6WF | Gasoline | |
| VTPU7J | Gasoline | |
| VU6WED | Gasoline | |
| VWT3JM | Gasoline | |
| VXAKU3 | Gasoline | |
| W22LHF | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | Medium |
| W3V7RF | Gasoline | |
| W4LV6L | Gasoline | |
| W4RF9C | Others - Miscellaneous | C7-C17 |
| W9L94R | Gasoline | |
| WDVR3K | Gasoline | |
| | Petroleum Distillates (including De-Aromatized) | heavy-range |
| WF3HEM | Gasoline | |
| WMHN68 | Gasoline | |
| WVTH6L | Gasoline | |
| WZNGXJ | Gasoline | |
| X9WPLX | Gasoline | |
| XCU2MP | Gasoline | |
| XFXPDD | Gasoline | |
| XK76PH | Gasoline | |
| XP6WYL | Gasoline | |
| XRQFMJ | Gasoline | |
| XVDX64 | Gasoline | |
| XY8EBN | Others - Miscellaneous | |
| Y3L2DE | Gasoline | |
| Y6B9VQ | Gasoline | |
| YAQMJW | Gasoline | |
| YDP4RK | Gasoline | |
| YFVGHY | Gasoline | |
| YFWERU | Gasoline | |
| YQ9TKV | Gasoline | |
| YTLCVD | Gasoline | |
| YUTKWX | Others - Miscellaneous | Blended Product (Gasoline+Medium Petroleum Distillates) |
| YV83Y4 | Gasoline | |
| | Oxygenated Solvents | light |
| | Petroleum Distillates (including De-Aromatized) | medium |

TABLE 1b- Item 2

| WebCode | Item 2: Class | SubClass |
|---------|-------------------------------------------------|---------------|
| YXUUU7 | Gasoline | |
| Z6TJAP | Gasoline | |
| ZAJLYM | Gasoline | |
| ZT2P23 | Gasoline | |
| ZT2TQ7 | Gasoline | |
| ZTEUKD | Petroleum Distillates (including De-Aromatized) | medium C8-C14 |
| ZZWVTH | Gasoline | |
| ZZWVYE | Gasoline | |

| Response Summary | | Total Participants: 309 |
|-------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Item 2: Class | | |
| Gasoline | 281 | Totals may add up to more than the total number of participants because some participants reported multiple ignitable substance classes detected. |
| Petroleum Distillates (including De-Aromatized) | 31 | |
| Others - Miscellaneous | 19 | |
| Aromatic Products | 2 | |
| Isoparaffinic Products | 1 | |
| No Ignitable Liquid(s) Detected | 1 | |
| Oxygenated Solvents | 1 | |

Flammable Recovery Techniques

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|------------------------------------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|---------------------|-----------------|-------------------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| 23FAUX | ✓ | | | ✓ 80 | 4 Hours | Carbon/Charcoal | Pentane |
| Other Recovery Technique: Headspace (ambient temperature) | | | | | | | |
| 26LXQE | ✓ | | | ✓ 90 | | Carbon/Charcoal | carbon sulphide[sic] |
| 2CAC3Z | ✓ | | | ✓ 70 | 3 hrs | Carbon/Charcoal | carbon disulfide (CS ₂) |
| 2TP2K7 | ✓ | | | ✓ 80 | 2:30 | Carbon/Charcoal | CH ₂ Cl ₂ |
| 3234P8 | ✓ | | | ✓ 71 | 5.25 Hours | Carbon/Charcoal | Carbon Disulfide |
| 37WZEY | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 382UM4 | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | CS ₂ |
| 39J3CC | | ✓ | | ✓ 80 | | Carbon/Charcoal | Pentane |
| 3FWQVZ | ✓ | | | ✓ 70 | 16 Hours | Carbon/Charcoal | Cabon Disulfide |
| 3L9R24 | ✓ | | | ✓ ~69 | 4 hrs | Carbon/Charcoal | pentane |
| 3PLGF7 | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 3PLLNN | | | | ✓ 90 | | | |
| 3RCDBR | ✓ | | | ✓ 70 | ~16 hours | Carbon/Charcoal | CS ₂ |
| Other Recovery Technique: Simple Headspace: heated at ~70C for ~15 minutes; 0.5 uL injection. | | | | | | | |
| 3T7DX6 | ✓ | | | ✓ 80 | 02:30 | Carbon/Charcoal | CH ₂ Cl ₂ |
| 3VPPN | ✓ | | | ✓ 81-99 | 15 hrs | Carbon/Charcoal | carbon disulfide |
| 3WBPBY | ✓ | | | ✓ 73 | 17.25 hours | Carbon/Charcoal | CS ₂ |
| 3WTBR9 | ✓ | | | ✓ 80 | 6H | Carbon/Charcoal | CS ₂ |
| 3XEUDK | ✓ | | | ✓ 80 | 19 hours | Carbon/Charcoal | Carbon Disulfide |
| 42EDYJ | ✓ | | | ✓ 80 | 2 hours | Carbon/Charcoal | carbon disulfide |
| 42UQBA | | | | ✓ 90 | | | |
| 447MHE | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | CS ₂ |
| 44MZLH | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Dichloromethane |
| 46GX66 | ✓ | | | ✓ 70 | 30 seconds | carboxen/PDMS | |
| Other Recovery Technique: SPME | | | | | | | |
| 4FZXT7 | ✓ | | | ✓ 60 | 17 hrs | Carbon/Charcoal | |
| 4GAKBZ | | | | | | | PENTANE |
| 4HLERZ | ✓ | | | ✓ 80 | 3 hours | Carbon/Charcoal | Carbon disulfide |
| 4LY9LC | | ✓ | | ✓ 100 | 1 hour | Tenax | Pentane |
| 4N8GN6 | | ✓ | | ✓ 120 | | Tenax | Thermal |
| 4NQZXH | ✓ | | | ✓ 90 | 16H | Carbon/Charcoal | CS ₂ |
| 4QG8AR | ✓ | | | ✓ 70 | 16h | Tenax TA | Thermal |
| 4T3Z22 | ✓ | | | ✓ 60 | 16 hrs | Carbon/Charcoal | CS ₂ |
| 4W3EJK | ✓ | | | ✓ 50 | 6 hours | Carbon/Charcoal | carbon disulfide |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|---------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|---------------------|--------------------------|-------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| 4WNNVA | ✓ | | | ✓ 65.7 | | Carbon/Charcoal | CS2 |
| 4XXH7K | | ✓ | ✓ | ✓ 130 | | Tenax | Thermal |
| 4XXN32 | ✓ | | | | | Carbon/Charcoal | |
| 4YRQEJ | ✓ | | | ✓ 40 | 10 min | SPME (DVB/CAR/PDMS) | Thermal |
| 62EKX6 | ✓ | | | | | Carbon/Charcoal | Pentane |
| 63NKZR | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 64KZCN | ✓ | | | ✓ 60 | 13 hours | Carbon/Charcoal | Carbon Disulfide |
| 68EYH8 | ✓ | | | 65 | 16 hours | Carbon/Charcoal | carbon disulfide |
| 6BYXRV | ✓ | | | ✓ 70 | 24 hours | Carbon/Charcoal | Carbondisulfide |
| Other Recovery Technique: Solvent extraction with dichlorormethane | | | | | | | |
| 6G4P4D | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 6JT4NG | ✓ | | | ✓ 80 | | Carbon/Charcoal | Carbon Disulfide |
| 6MRG9L | ✓ | | | ✓ 70-90 | 16 Hours | Carbon/Charcoal | Carbon Disulphide |
| Other Recovery Technique: No other recovery techniques used | | | | | | | |
| 6NL3ZR | ✓ | | | ✓ 68 | 15 Hours | Carbon/Charcoal | Carbon Disulfide |
| 6QQL7Z | ✓ | | | ✓ 75 | overnight | Carbon/Charcoal | CS2 |
| 6R2T88 | ✓ | | ✓ | | 16 hr | Carbon/Charcoal, SPME | Methylene chloride |
| Other Recovery Technique: SPME adsorption duration is 2min | | | | | | | |
| 6R8V2L | | | | | | Carbon/Charcoal | CS2 |
| 73GYJ2 | ✓ | | | ✓ 60 | 16 h. @ 60 C | Carbon/Charcoal | pentane |
| 73ZN63 | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | CS2 |
| 7A3NMK | ✓ | | | ✓ 90 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 7AKQ6T | ✓ | | ✓ | ✓ 50-80 | 10min | spme | Thermal |
| Other Recovery Technique: solvent extraction | | | | | | | |
| 7F8KBQ | | | | ✓ 90 | | | |
| 7GHBE2 | | ✓ | | ✓ 90 | | SPME | Thermal |
| 7HWQVM | ✓ | | | ✓ 60 | | Carbon/Charcoal | Carbon Disulfide |
| 7HWZD8 | ✓ | | | ✓ 65 | | | Thermal |
| Other Recovery Technique: Solvent(Diethyl Ether) Extraction | | | | | | | |
| 7QMTGQ | ✓ | | ✓ | | 16 hrs | Carbon/Charcoal | carbon disulfide |
| 7TWNEG | ✓ | | | ✓ 70 | 15 hours | Carbon/Charcoal | Carbon Disulfide |
| 7V4EPJ | ✓ | | ✓ | ✓ 82.9 | 18 hours | Carbon/Charcoal | Dichloromethane & water |
| 7Y37MG | | | | ✓ 70 | | | |
| 7YXRDM | ✓ | | | ✓ 80 | 16HR | Carbon/Charcoal | PENTANE |
| 7ZULBC | | | | ✓ 60 | | Carbon/Charcoal | CS2 |
| 83DLRY | ✓ | | | ✓ 80 | 2 hours | Carbon/Charcoal | Dichloromethane |
| 84C7V8 | ✓ | | | 62 | 1 hour | Carbon/Charcoal | CS2 |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption | |
|----------------------------------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|---------------------|-----------|-------------------------------|------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | | |
| 86GCWT | ✓ | | | ✓ | 68 | 6 hours | Carbon/Charcoal | carbon disulfide |
| 8GDHPR | | ✓ | ✓ | ✓ | 80 | 5minutes | TenaxTA | Thermal |
| 8JN8KP | ✓ | | | | 80 | 8 h | Carbon/Charcoal | Butanol + DCM |
| 8LDFR6 | ✓ | | | ✓ | 78 | 2 hours | Carbon/Charcoal | carbon disulfide |
| 8PUD6E | | ✓ | ✓ | | | | Tenax | Thermal |
| Other Recovery Technique: Direct dichloromethane extraction of a portion of each cloth wick | | | | | | | | |
| 8Q2EP8 | | | | | | | | n-pentane |
| 8QPL6Q | ✓ | | | ✓ | 90 | 5 h | Carbon/Charcoal | CS2 |
| 8RV3AN | | | ✓ | ✓ | 85 | | Tenax | Thermal |
| 8TERPN | ✓ | | | ✓ | 80 | 6 hrs | Carbon/Charcoal | CS2 |
| 8TQNVR | ✓ | | | ✓ | 80 | | | |
| Other Recovery Technique: Liquid-liquid extraction with diethyl ether | | | | | | | | |
| 8WTLCM | ✓ | | | | 60 | 16 hours | Carbon/Charcoal | Pentane |
| 97AM8M | ✓ | | | ✓ | 95 | 24 hr | Carbon/Charcoal | Dichloromethane |
| 97APWQ | ✓ | | | ✓ | 68 | 6 hours | Carbon/Charcoal | carbon disulfide |
| 99M7KQ | ✓ | | | ✓ | 75 | 5 hours | Carbon/Charcoal | CS2 |
| 9AWAU9 | ✓ | | | ✓ | 60 | 16 hours | Carbon/Charcoal | Pentane |
| 9MJXBE | ✓ | | | ✓ | 70 | 24 hrs | Carbon/Charcoal | diethyl ether |
| 9PQDJ6 | ✓ | | | ✓ | 70 | 16.5 hrs | Carbon/Charcoal | Ethyl Ether |
| Other Recovery Technique: SPME with Carboxen/PDMS at 40°C for 30min. Thermal desorption | | | | | | | | |
| 9QHVEY | ✓ | | | ✓ | 70 | 18 hrs | Carbon/Charcoal | Carbon disulfide |
| 9WQYML | ✓ | | | ✓ | 70 | 16 hours | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Direct heated headspace, 10 minutes at 70C | | | | | | | | |
| 9X4QF3 | ✓ | | | ✓ | 65 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| 9XFK26 | | | | | | | | Thermal |
| Other Recovery Technique: Headspace, heated at 90 degrees | | | | | | | | |
| A89YWN | ✓ | | | ✓ | 60 | 16 hours | Carbon/Charcoal | carbon disulfide |
| A9K9U8 | | ✓ | ✓ | | | | Tenax | Thermal |
| AAUFWZ | ✓ | | | ✓ | 65 | 17 hrs | Carbon/Charcoal | CS2 |
| ABFT7P | ✓ | | | ✓ | 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| AFXPGV | ✓ | | | ✓ | 110 | 30 min | | Thermal |
| AHGXCN | ✓ | | | ✓ | 80 | | SPME Fiber (carboxen-PDMS) | Thermal |
| APGENE | ✓ | | | | | | | |
| AQBZFK | | ✓ | | ✓ | 80 | 16 hours | Carbon/Charcoal | n-Pentane |
| AQWM3A | ✓ | | | ✓ | 65 | 16 | Carbon/Charcoal | Carbon Disulfide |
| ARR77W | ✓ | | | ✓ | 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| AX2WFA | ✓ | | | ✓ | 63 | 21 hours | Carbon/Charcoal | Carbon disulfide |
| AZ7YBZ | ✓ | | | ✓ | 80 | 12 hours | Carbon/Charcoal | Carbon disulfide |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption | |
|--------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|---------------------|-------------------------------------------------------------|-----------------|---------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | | |
| B3RQT2 | ✓ | | | ✓ | 80 | 4 hours | Carbon/Charcoal | CS2 Toluene |
| B9CDGY | ✓ | | | ✓ | 65 | 16 hours | Carbon/Charcoal | CS2 |
| BCBPCY | ✓ | | | ✓ | 65 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| BCBR24 | ✓ | | | ✓ | 60 | 16 hours | Carbon/Charcoal | CS2 |
| BPK899 | ✓ | | | ✓ | 80 | 2 hours | Carbon/Charcoal | carbon disulfide |
| BTLBZV | ✓ | | | ✓ | 60 | 16 HOURS | Carbon/Charcoal | CSS |
| BVR422 | ✓ | | | ✓ | 80 | 2 hours | Carbon/Charcoal | N-Pentane |
| C3L8BC | ✓ | | ✓ | ✓ | 80 | ~16 hours at room temperature followed by 20 minutes heated | Carbon/Charcoal | Carbon Disulfide |
| Other Recovery Technique: Heated Headspace | | | | | | | | |
| C8BM24 | ✓ | | | ✓ | 69 | 16 hrs. | Carbon/Charcoal | CS2 |
| C98AA2 | ✓ | | | ✓ | 90 | 10 mins | | |
| C9LPN3 | ✓ | | ✓ | | | | SPME (CAR/PDMS) | Thermal |
| CCQ9YG | ✓ | | | ✓ | 60 | 16 hours | Carbon/Charcoal | carbon disulfide |
| CDYCFL | ✓ | | ✓ | ✓ | 75 | 20 hrs | Carbon/Charcoal | pentane, Thermal |
| CEZX3 | ✓ | | | ✓ | 58 | 1 HR | Carbon/Charcoal | CS2 |
| CKKQHD | ✓ | | ✓ | | | 3 hours - 2 days | Tenax | Thermal |
| CM82ZC | ✓ | | | ✓ | 80 | 30 minutes | Carbon/Charcoal | carbon disulfide |
| CPAZCQ | ✓ | | | ✓ | 71 | 14 hrs | Carbon/Charcoal | Carbon Disulfide |
| CWVQ6D | ✓ | | | ✓ | 70 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| CXKBJV | ✓ | | | ✓ | 80 | 2:30 | Carbon/Charcoal | CH2Cl2 Dichloromethane |
| CZXP HQ | ✓ | | | ✓ | 70 | | Carbon/Charcoal | carbon disulfide |
| D24HPB | | | | | | | SPME | Thermal |
| D9M4CM | | | | | | | | |
| Other Recovery Technique: Heated headspace, 90 ° C for 10 minutes | | | | | | | | |
| DC42BB | ✓ | | | ✓ | 70 | 16 hours | Carbon/Charcoal | CS2 |
| DEATWW | ✓ | | | ✓ | 64.9 | 19 hrs 55 min | Carbon/Charcoal | CS2 |
| DF36NW | ✓ | | | ✓ | 80 | 2 hours | Carbon/Charcoal | Pentane |
| DFKNLV | ✓ | | | ✓ | 65 | 16 hours | Carbon/Charcoal | CS2 |
| DRG3TZ | ✓ | | | ✓ | 70 | 3 hours | Carbon/Charcoal | pentane |
| DRGX6 | ✓ | | | ✓ | 91 | 17 hours | Carbon/Charcoal | carbon disulfide |
| DXQTA8 | ✓ | | | ✓ | 65 | 16 Hours | Carbon/Charcoal | Carbon Disulfide |
| DYDC7Y | ✓ | | ✓ | | | ~24 hours | Carbon/Charcoal | carbon disulfide |
| E2HH4K | ✓ | | | ✓ | 85 | | Carbon/Charcoal | Pentane |
| E4NB9W | ✓ | | ✓ | ✓ | 60 | 24 hrs | Carbon/Charcoal | CS2 |
| E6W92Z | ✓ | | | ✓ | 90 | 10 MINUTES | | |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|----------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|---------------------|---------------------|------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| E93FX Y | ✓ | | | ✓ 70 | overnight | Carbon/Charcoal | CS2 |
| EDBYWR | | ✓ | | ✓ 70 | | Tenax TA | Thermal |
| Other Recovery Technique: Direct HS; Solvent extraction | | | | | | | |
| EJNK7Y | ✓ | | | ✓ 65 | 4pm-8am ~16hrs | Carbon/Charcoal | CS2 |
| ELPK7V | ✓ | | | ✓ 65 | 16hrs | Carbon/Charcoal | carbon disulfide |
| EUZ3BM | ✓ | | | ✓ 80 | | Carbon/Charcoal | pentane |
| EVXP3Y | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | pentane |
| EW6LEA | ✓ | | | ✓ 64 | 9 hours | Carbon/Charcoal | Carbon Disulfide |
| F2FAEW | ✓ | | | ✓ 70 | 6 Hours | Carbon/Charcoal | CS2 |
| F2RXMB | | ✓ | | ✓ 90 | 10 minutes | Carbotrap/carbopack | Thermal |
| F6Y4DJ | ✓ | | | ✓ 80 | | Carbon/Charcoal | CS2 |
| F84YTF | ✓ | | | ✓ | 3 hrs | Carbon/Charcoal | CS2 |
| FBFTMQ | ✓ | | ✓ | | 24 hours | Carbon/Charcoal | Carbon Disulfide |
| FCBEDW | ✓ | | | ✓ 66 | 16 hours | Carbon/Charcoal | carbon disulfide |
| FJC6W8 | ✓ | | ✓ | | 24hrs | Carbon/Charcoal | Dichloromethane |
| Other Recovery Technique: SPME; Solvent extraction with DCM | | | | | | | |
| FQC4D4 | ✓ | | | ✓ 90 | 16 hr | Carbon/Charcoal | carbon disulfide |
| FTZXH8 | | | | ✓ 50 | | spme | Thermal |
| Other Recovery Technique: Spme (Solid Phase Micro Extractor) - PDMS | | | | | | | |
| G4J3BG | ✓ | | | ✓ 90 | 5 h | Carbon/Charcoal | CS2 |
| G8K7XW | ✓ | | | ✓ 75 | 5 hours 40 minutes | Carbon/Charcoal | Carbon Disulfide |
| G9AL4Y | | ✓ | | ✓ 87 | 20min | Carbon/Charcoal | Carbon disulfide |
| GFA4FP | ✓ | | | ✓ 60 | 18 hours | Carbon/Charcoal | Carbon disulfide |
| GH6FLQ | ✓ | | | ✓ 72 | 4 hours | Carbon/Charcoal | pentane |
| GLH9AB | | | | | | | Hexane |
| GURQPN | ✓ | | | ✓ 69 | 5 hrs | Carbon/Charcoal | CS2 |
| GWJRTQ | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | CS2 |
| GZJXZ | | ✓ | | ✓ 87 | 20 minutes | Carbon/Charcoal | CS2 |
| GZYDLX | ✓ | | | ✓ 70 | 10 hours | Carbon/Charcoal | Ethyl Ether |
| Other Recovery Technique: Direct heated headspace @ 70C for 30 min. | | | | | | | |
| H3KRW7 | ✓ | | | ✓ 80 | 12-18 hours | Carbon/Charcoal | Carbon disulfide |
| H73GCW | ✓ | | | ✓ 71 | 4 hours 36 minutes | Carbon/Charcoal | carbon disulfide |
| HDMJBL | | ✓ | | ✓ 100 | | Tenax | Thermal |
| HEVT4J | ✓ | | | ✓ 80 | 16hours | Carbon/Charcoal | CS2 |
| HJQMY Y | ✓ | | | ✓ ~80 | ~16 hours | Carbon/Charcoal | CS2 |
| HJRDDU | ✓ | | | ✓ 78 | 3 hours | Carbon/Charcoal | CS2 |
| HK48VF | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | carbon disulfide |
| HQTRWA | ✓ | | | ✓ 65 | 16h | Carbon/Charcoal | carbon disulfide |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|--------------------------------------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|---------------------|----------------------------|------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| HVFTMM | ✓ | | | ✓ 80 | 02 Hours | Carbon/Charcoal | Dichloromethane |
| HVLUZA | ✓ | | | ✓ 65 | 16.75 hr | Carbon/Charcoal | carbon disulfide |
| HWER7V | | | ✓ | ✓ 80 | | SPME | Diethyl ether |
| J34HEC | ✓ | | | ✓ 65 | 16 | Carbon/Charcoal | |
| J498EZ | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | Carbon disulfide |
| J4TXHT | ✓ | | ✓ | | ~24 hours | Carbon/Charcoal | carbon disulfide |
| JC7AQ6 | ✓ | | ✓ | ✓ 60 & 90 | 16 HOURS | TENAX TA | Thermal |
| JFPWFQ | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon disulfide |
| JL8G96 | ✓ | | | ✓ 60 | 4.5 hours | Carbon/Charcoal | Carbon disulfide |
| JNC8BD | ✓ | | ✓ | ✓ 60 | 16 hours | Carbon/Charcoal | CS2 |
| JZ8BMK | ✓ | | | ✓ 80 | 17 hours | Carbon/Charcoal | carbon disulfide |
| K64C9Y | ✓ | | | ✓ 70 | 16 Hours | Carbon/Charcoal | Dichloromethane |
| K9G3N2 | ✓ | | | ✓ 80 | 3.75 hrs | Carbon/Charcoal | CS2 |
| Other Recovery Technique: E1386 - pentane extraction of portion of swatch | | | | | | | |
| KDDJA9 | ✓ | | | ✓ 60 | 17 | Carbon/Charcoal | Carbon Disulfide |
| KLZQER | ✓ | ✓ | ✓ | ✓ 80 | 30 min SPME | Tenax | Thermal |
| Other Recovery Technique: Passive-SPME, Dynamic-Tenax, Room Temperature-Tenax, Heated-SPME | | | | | | | |
| KNUWBQ | ✓ | | | ✓ 60 | 15 hours | Carbon/Charcoal | Carbon Disulfide |
| Other Recovery Technique: Static headspace 90 degrees C heated 10 minutes | | | | | | | |
| KP4F6E | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | CS2 |
| KRCLNV | ✓ | | ✓ | | 19h | Carbon/Charcoal | CS2 |
| KRX22C | ✓ | | | ✓ 73 | 4 hours | Carbon/Charcoal | Carbon disulfide |
| KZNWN9 | ✓ | | | ✓ 80 | 10 Hrs. | Carbon/Charcoal | |
| L7QL6Y | ✓ | | | ✓ 70 | 15 hrs | Carbon/Charcoal | CS2 |
| LDPKMU | | ✓ | | ✓ 87 | 20 minutes | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Heated Headspace | | | | | | | |
| LK6JUE | ✓ | | | ✓ 60 | 17 hours | Carbon/Charcoal | Carbon Disulfide |
| LUYJFY | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | DCM |
| LVPN97 | ✓ | | | ✓ 65 | 16 hours | Charcoal Strip | CS2 |
| LVU8W9 | ✓ | | | ✓ 70 | 16.5hrs | Carbon/Charcoal | Ethyl Ether |
| Other Recovery Technique: SPME with Carboxen/PDMS Fiber 40C for 30 mins with Thermal desorption | | | | | | | |
| M6B9Q9 | ✓ | | | ✓ 70 | ~16 hours | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Simple Headspace, Heated at 70C for 10 minutes | | | | | | | |
| M78P47 | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| M8GUGU | ✓ | | | ✓ 60 | overnight | Carbon/Charcoal | |
| MCBNGG | ✓ | | | ✓ 65 | 16 hrs | Carbon/Charcoal | CS2 |
| MCFMN4 | ✓ | | | ✓ 90 | | Pentanic liquid extraction | |
| MDRPL4 | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | CS2 |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|----------------------------------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|--------------------------------------------------|--------------------|------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| MM8QQC | ✓ | | | ✓ 68 | 6 hours | Carbon/Charcoal | carbon disulfide |
| MTLCRW | ✓ | | | ✓ 62 | 16 hours | Carbon/Charcoal | Pentane |
| MUAF82 | | ✓ | ✓ | ✓ 130 | | Tenax TA | Thermal |
| MZFLTE | ✓ | | | ✓ 77 | 17 hours | Carbon/Charcoal | |
| N677NG | ✓ | | | ✓ 80 | 02 Hours | Carbon/Charcoal | Dichloromethane |
| N8CJEV | ✓ | | | ✓ 85 | 3 | | Thermal |
| NAME8F | ✓ | | | ✓ approx 80 | overnight | Carbon/Charcoal | CS2/C26 |
| NBE6YR | ✓ | | | 70 | 15 hours | Carbon/Charcoal | Carbon Disulfide |
| NDKVGX | ✓ | | | ✓ 80 | ~2.5 hours | Carbon/Charcoal | CS2 |
| Other Recovery Technique: Solvent extraction | | | | | | | |
| NQR4Y7 | ✓ | | | ✓ 80 ± 5 | 16 hours | Carbon/Charcoal | Dichloromethane |
| NWEMB9 | ✓ | | | ✓ 80 | 02 Hours | Carbon/Charcoal | Dichloromethane |
| P6NKLJ | ✓ | | | ✓ 70 | 18 hrs | Carbon/Charcoal | CS2 |
| PBDXLL | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| PBQQY2 | ✓ | | | | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| PDEAWR | ✓ | | | ✓ 80 | ~16 hours | Carbon/Charcoal | carbon disulfide |
| PEFXN4 | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| PEP6MQ | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | Carbon disulfide |
| PKZ2QZ | ✓ | | | ✓ 70 | 12-16 hours | Carbon/Charcoal | Carbon Disulfide |
| PQ7ULV | ✓ | | | ✓ 65 | 16 Hours | Carbon/Charcoal | Carbon Disulfide |
| PQLZYZ | ✓ | | | ✓ 80 | 18 hrs | Carbon/Charcoal | Carbon Disulfide |
| PTCCLC | ✓ | | | ✓ 80 | overnight | Carbon/Charcoal | CS2/C26 |
| PTV248 | | ✓ | | ✓ 95 | 15 minutes | Carbon/Charcoal | CS2 |
| PU8XDH | ✓ | | | ✓ 77 | 4 hours | Carbon/Charcoal | CS2 |
| PYZWPT | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| Q42P4F | ✓ | | | ✓ 79 | 16 hours | Carbon/Charcoal | CS2 |
| Q7CKTT | ✓ | | | ✓ 90 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| Q93F3G | | ✓ | | ✓ <90 | 20 minutes | Carbon/Charcoal | |
| Other Recovery Technique: Room Temperature Headspace, Solvent Extraction (Carbon Disulfide) | | | | | | | |
| QHMTVK | ✓ | | | ✓ 180 | 2 hrs | Carbon/Charcoal | CS2 |
| QKQQ4R | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | carbon disulfide |
| QRUVBW | ✓ | | ✓ | | 24hrs | Carbon/Charcoal | DCM |
| QVA3GQ | ✓ | | ✓ | ✓ 80 | 1h (room temperature), 15 min and 30 min (80° C) | SPME (Carbox/pdms) | |
| QZNKTF | ✓ | | | ✓ 80 | 02 Hours | Carbon/Charcoal | Dichloromethane |
| R2F9HE | | ✓ | | ✓ 92 | | Carbon/Charcoal | carbon disulfide |
| REPNTY | ✓ | | | ✓ 65 | 16 hrs | Carbon/Charcoal | Carbon Disulfide |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|------------------------------------------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|----------------------------------------------------------|--------------------------------------------------|---------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| RLN9PU | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide |
| RN3ZLN | | ✓ | | ✓ 100 | 1 hr | Tenax | Pentane |
| RPJ6CZ | ✓ | | ✓ | | Approx. 16 hours | Carbon/Charcoal | Carbon disulfide |
| RPMPZ3 | ✓ | | | ✓ 70 | 16.5 | Carbon/Charcoal | diethyl ether |
| Other Recovery Technique: SPME for light volatiles, heated 40 deg C for 10 min, Carboxen/PDMS fiber | | | | | | | |
| RV9RYT | ✓ | | | ✓ 90 | 14 hrs | Carbon/Charcoal | CS2 |
| T4GGEC | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | CS2 |
| T4ML32 | ✓ | | | ✓ 70 | 19 hours | Carbon/Charcoal | carbon disulfide |
| T9QJG8 | ✓ | | | ✓ 90 | 1 sec (Item 1, 2); 10 sec (Item 2); 20 min (Item 1 to 3) | solid phase microextraction (DVB/CAR/PDMS fiber) | Thermal |
| Other Recovery Technique: solvent extraction using diethyl ether as solvent | | | | | | | |
| T9RMYP | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| TA4DYT | | ✓ | | ✓ 90 | | | |
| TBGTGZ | ✓ | | | ✓ 65 | overnight | Carbon/Charcoal | CS2 |
| TCAQML | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| TK2CLT | ✓ | | | ✓ 80 | 16 hrs | Carbon/Charcoal | Carbon Disulfide |
| TMC8GX | ✓ | | | ✓ 88 | 14 Hours | Carbon/Charcoal | Carbon Disulfide |
| TPGNMF | | ✓ | | ✓ 100 | | TENAX | Thermal |
| TUP8MU | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | carbon disulfide |
| TV3U69 | | | | | | Carbon/Charcoal | Pentane, Carbon Disulfide |
| TVJTEY | ✓ | | | ✓ 90 | | | Thermal |
| Other Recovery Technique: SPME | | | | | | | |
| TXUJY2 | ✓ | | | ✓ 70 | 4 hrs | Carbon/Charcoal | CS2 |
| TY6N8J | ✓ | | | ✓ 75 | 5 hours 45 minutes | Carbon/Charcoal | carbon disulfide |
| TYNEBC | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide |
| UCA24B | ✓ | | | ✓ 65 | 16 hrs | Carbon/Charcoal | CS2 |
| UD7HG8 | ✓ | | | ✓ 80 | overnight | Carbon/Charcoal | CS2/C26 |
| UH9KAM | | | | | | | n-Hexane |
| ULDEZ6 | ✓ | | | ✓ 80 | 4 hours | Carbon/Charcoal | CS2 |
| UNG4BZ | ✓ | | | ✓ 70 | overnight (17 hrs) | Carbon/Charcoal | CS2 |
| UTCZVK | | | | ✓ 90 | 10 minutes | | |
| V24Q3D | | ✓ | | ✓ 100 | Few seconds | Tenax | Thermal |
| V3DKZY | | | | ✓ 90 | | | Thermal |
| V3Y6XJ | ✓ | | | ✓ 80 | 2 hours | Carbon/Charcoal | CS2 |
| V8R4AT | ✓ | | | ✓ 60 | 16 hours | Carbon/Charcoal | carbon disulfide |
| VAFM7K | ✓ | | | ✓ 65 | 15min | SPME | Thermal |
| Other Recovery Technique: Solvent(Diethyl Ether) Extraction | | | | | | | |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption |
|-------------------------------------------------------------------------------------------------|----------------------|---------|-----------------|-------------|--------------------------------------|-----------------|------------------------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | |
| VBV2HZ | ✓ | | | ✓ 68 | 4 hours | Carbon/Charcoal | CS2 |
| VC72J2 | ✓ | | | ✓ 80 | 8 h | Carbon/Charcoal | DCM/BUTANOL |
| VC8AUL | ✓ | | | ✓ 70 | 15 hours | Carbon/Charcoal | Carbon Disulfide |
| VECCPC | ✓ | | | ✓ 60 | 16 hrs | Carbon/Charcoal | Carbon Disulfide |
| VJ3WEE | ✓ | | | ✓ 65 | 16 hrs | Carbon/Charcoal | CS2 |
| VJH3RH | ✓ | | ✓ | | 1 min | Carbon/Charcoal | Thermal |
| Other Recovery Technique: solvent extraction | | | | | | | |
| VRD6WF | | ✓ | | ✓ 80-90 | 5 Minutes | Carbon/Charcoal | CS2 |
| VTPU7J | ✓ | | | 65 | 16 hrs | Carbon/Charcoal | Carbon Disulfide |
| VU6WED | ✓ | | | ✓ 79 | 4.25 hours | Carbon/Charcoal | CS2 |
| VWT3JM | | | | ✓ 60 | | Carbon/Charcoal | |
| VXAKU3 | ✓ | | | ✓ 70 | 16-18 hours | Carbon/Charcoal | carbon disulfide |
| W22LHF | ✓ | | | ✓ 80 | 2 Hours | Carbon/Charcoal | Carbon Disulfide |
| W3V7RF | ✓ | | | ✓ 61 | 16 hrs | Carbon/Charcoal | CS2 |
| W4LV6L | ✓ | | ✓ | | 24 hours | Carbon/Charcoal | carbon disulfide |
| W4RF9C | | ✓ | ✓ | ✓ 89 | 24 minutes | Carbon/Charcoal | Carbon Disulfide |
| W9L94R | ✓ | | | ✓ 70 | ~16 hours | Carbon/Charcoal | Carbon disulfide |
| WDVR3K | ✓ | | ✓ | | 16 hours | Carbon/Charcoal | pentane |
| WF3HEM | ✓ | | | ✓ 70 | 16 hours | Carbon/Charcoal | CS2 |
| WMHN68 | ✓ | | | ✓ 71 | 2 hrs | Carbon/Charcoal | carbon disulfide (CS2) |
| WVTH6L | ✓ | | | ✓ 65 | 2.5 hours | Carbon/Charcoal | Carbon Disulfide |
| WZNGXJ | ✓ | | ✓ | | 17 hours | Carbon/Charcoal | CS2 |
| X9WPLX | ✓ | | | ✓ 70 | 18 hrs | Carbon/Charcoal | CS2 |
| XCU2MP | ✓ | | | ✓ 60 | | Carbon/Charcoal | carbon disulfide |
| Other Recovery Technique: Headspace-starting temp. @ 35C and final temp. 100C | | | | | | | |
| XFXPDD | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| XK76PH | | | | ✓ 90 | | | |
| XP6WYL | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide |
| XRQFMJ | ✓ | | | ✓ 80 | 16 hours | Carbon/Charcoal | Carbon Disulfide |
| XVDX64 | ✓ | | | ✓ 90 | 12 hours | Carbon/Charcoal | Diethyl Ether |
| XY8EBN | ✓ | | | ✓ 60 | 1 HOUR (BULK) & 16 HOURS (SUBSAMPLE) | TENAX TA | Thermal |
| Y3L2DE | ✓ | | | ✓ 70 | 10 hours | Carbon/Charcoal | ethyl ether |
| Other Recovery Technique: Direct headspace analysis (heated at 70 deg. C for 30 minutes) | | | | | | | |
| Y6B9VQ | ✓ | | | ✓ 70 | 12-16 hours | Carbon/Charcoal | Carbon Disulfide |
| YAQMJW | ✓ | | ✓ | 80 | 6 hours | Carbon/Charcoal | carbon disulfide |
| YDP4RK | ✓ | | | ✓ 80 | 16hrs | Carbon/Charcoal | Carbon Disulfide |

TABLE 2

| WebCode | Adsorption Headspace | | Adsorption Temp | | Adsorption Duration | Adsorbent | Desorption | | |
|-----------------------------------------------------------------------------------------------------------|----------------------|---------|-----------------|--------------------------------|-----------------------------------------------------|-------------------------|--------------------|------------|---------|
| | Passive | Dynamic | Rm Temp | Heated (°C) | | | | | |
| YFVGHY | ✓ | | | ✓ 72 C | 4.5 hrs | Carbon/Charcoal | carbon disulfide | | |
| YFWERU | ✓ | | | ✓ 65 | overnight (16 hrs) | Carbon/Charcoal | carbon disulfide | | |
| YQ9TKV | ✓ | | ✓ | ✓ 60 | Room Temperature: 16 hours; Heated: 2.5 hours | Carbon/Charcoal | CS2 | | |
| YTLCVD | ✓ | | | ✓ 78 | 3 hours | Carbon/Charcoal | carbon disulfide | | |
| YUTKWX | ✓ | | ✓ | ✓ 70 | 15 min | SPME, CAR-PDMS fiber | Thermal | | |
| YV83Y4 | | | | ✓ 95 | | | pentane | | |
| YXUUU7 | ✓ | | | ✓ 80C, 45 min, 1 ml inj. | | | | | |
| Other Recovery Technique: Item 2 was extracted with diethyl ether after passive headspace-sampling | | | | | | | | | |
| Z6TJAP | ✓ | | | ✓ 65 | 16 hours | Carbon/Charcoal | carbon disulfide | | |
| ZAJLYM | ✓ | | | ✓ 75 | 16 hours | Carbon/Charcoal | Dichloromethane | | |
| ZT2P23 | ✓ | | | 80 | 5 hrs | Carbon/Charcoal | | | |
| Other Recovery Technique: heated headspace sampling | | | | | | | | | |
| ZT2TQ7 | ✓ | | | ✓ 65 | approximately 16 hours | Carbon/Charcoal | carbon disulfide | | |
| ZTEUKD | | ✓ | | ✓ 80 | 4 min | Carbon/Charcoal | C5 | | |
| ZZWVTH | ✓ | | ✓ | ✓ 60 | | Carbon/Charcoal | toluene and CS2 | | |
| ZZWYYE | ✓ | | | ✓ 65 | | Carbon/Charcoal | CS2 | | |
| Response Summary | | | | | | | | | |
| | Adsorption Headspace | | Adsorption Temp | | | Adsorbent | | Desorption | |
| Participants | Passive | Dynamic | Rm Temp | Heated | | Carbon/Charcoal | Other | Thermal | Solvent |
| 309 | 261 | 27 | 36 | 271 | | 251 | 35 | 35 | 250 |

Identification Techniques

TABLE 3

| WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other |
|---------|----|-------|------------------------|---------|----|-------|--------------------|---------|----|-------|----------|
| 23FAUX | | ✓ | | 4WNNVA | | ✓ | | 86GCWT | | ✓ | |
| 26LXQE | ✓ | ✓ | | 4XXH7K | | ✓ | | 8GDHPR | | ✓ | |
| 2CAC3Z | | ✓ | | 4XXN32 | | ✓ | | 8JN8KP | | ✓ | |
| 2TP2K7 | | ✓ | | 4YRQEJ | | ✓ | | 8LDFR6 | | ✓ | |
| 3234P8 | | ✓ | | 62EKX6 | | ✓ | | 8PUD6E | | ✓ | |
| 37WZEY | ✓ | ✓ | | 63NKZR | | ✓ | | 8Q2EP8 | | ✓ | |
| 382UM4 | | ✓ | | 64KZCN | | ✓ | | 8QL6Q | | ✓ | |
| 39J3CC | | ✓ | | 68EYH8 | | ✓ | | 8RV3AN | | | GC/MS-TD |
| 3FWQVZ | | ✓ | | 6BYXRV | ✓ | ✓ | | 8TERPN | | ✓ | |
| 3L9R24 | | ✓ | | 6G4P4D | | ✓ | | 8TQNVN | | ✓ | |
| 3PLGF7 | ✓ | ✓ | odor assesment[sic] | 6JT4NG | | ✓ | | 8WTLCM | | ✓ | |
| 3PLLNN | | ✓ | | 6MRG9L | | ✓ | | 97AM8M | | ✓ | |
| 3RCDBR | | ✓ | | 6NL3ZR | | ✓ | | 97APWQ | | ✓ | |
| 3T7DX6 | | ✓ | | 6QQL7Z | | ✓ | | 99M7KQ | | ✓ | |
| 3VPPN | ✓ | ✓ | | 6R2T88 | | ✓ | | 9AWAU9 | | ✓ | |
| 3WBPBY | | ✓ | | 6R8V2L | | ✓ | | 9MJXBE | | ✓ | |
| 3WTBR9 | | ✓ | | 73GYJ2 | | ✓ | | 9PQDJ6 | | ✓ | |
| 3XEUDK | | ✓ | | 73ZN63 | | ✓ | | 9QHVEY | | ✓ | |
| 42EDYJ | | ✓ | | 7A3NMK | ✓ | ✓ | | 9WQYML | | ✓ | |
| 42UQBA | | | GC-FID | 7AKQ6T | ✓ | ✓ | | 9X4QF3 | ✓ | ✓ | |
| 447MHE | | ✓ | | 7F8KBQ | ✓ | ✓ | | 9XFK26 | | ✓ | |
| 44MZLH | | ✓ | | 7GHBE2 | | ✓ | | A89YWN | | ✓ | |
| 46GX66 | | ✓ | | 7HWQVM | | ✓ | | A9K9U8 | | ✓ | |
| 4FZXT7 | | ✓ | | 7HWZD8 | ✓ | ✓ | | AAUFWZ | | ✓ | |
| 4GAKBZ | | ✓ | | 7QMTG | | ✓ | | ABFT7P | | ✓ | |
| 4HLERZ | | ✓ | | Q | | | | AFXPGV | | ✓ | |
| 4LY9LC | ✓ | ✓ | | 7TWNEG | | ✓ | | AHGXCN | | ✓ | |
| 4N8GN6 | | ✓ | | 7V4EPJ | | ✓ | | APGENE | | ✓ | |
| 4NQZXH | | ✓ | | 7Y37MG | | | Headspace GC/MS | AQBZFK | | ✓ | |
| 4QG8AR | | ✓ | | 7YXRDM | | ✓ | | AQWM3A | | ✓ | |
| 4T32Z2 | | ✓ | | 7ZULBC | | ✓ | | ARR77W | | ✓ | |
| 4W3EJK | | ✓ | | 83DLRY | | ✓ | | AX2WFA | | ✓ | |
| | | | | 84C7V8 | | ✓ | | | | | |

TABLE 3

| WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other |
|---------|----|-------|-----------|---------|----|-------|-------|---------|----|-------|-------|
| AZ7YBZ | | ✓ | | E6W92Z | | ✓ | | HK48VF | | ✓ | |
| B3RQT2 | | ✓ | | E93FXV | | ✓ | | HQTRWA | | ✓ | |
| B9CDGY | ✓ | ✓ | | EDBYWR | | ✓ | | HVFTMM | | ✓ | |
| BCBPCY | ✓ | ✓ | | EJNK7Y | | ✓ | | HVLUZA | | ✓ | |
| BCBR24 | | ✓ | | ELPK7V | | ✓ | | HWER7V | | ✓ | |
| BPK899 | | ✓ | | EUZ3BM | | ✓ | | J34HEC | | ✓ | |
| BTLBZV | | ✓ | | EVXP3Y | | ✓ | | J498EZ | | ✓ | |
| BVR422 | ✓ | ✓ | | EW6LEA | | ✓ | | J4TXHT | | ✓ | |
| C3L8BC | ✓ | ✓ | | F2FAEW | | ✓ | | JC7AQ6 | | ✓ | |
| C8BM24 | | ✓ | | F2RXMB | | ✓ | | JFPWFQ | | ✓ | |
| C98AA2 | | ✓ | | F6Y4DJ | | ✓ | | JL8G96 | | ✓ | |
| C9LPN3 | | ✓ | | F84YTF | | ✓ | | JNC8BD | | ✓ | |
| CCQ9YG | | ✓ | | FBFTMQ | | ✓ | | JZ8BMK | | ✓ | |
| CDYCFL | | ✓ | | FCBEDW | | ✓ | | K64C9Y | | ✓ | |
| CEZX3 | | ✓ | | FJC6W8 | | ✓ | | K9G3N2 | | ✓ | |
| CKKQHD | ✓ | ✓ | | FQC4D4 | | ✓ | | KDDJA9 | | ✓ | |
| CM82ZC | ✓ | ✓ | | FTZXH8 | ✓ | ✓ | | KLZQER | | ✓ | |
| CPAZCQ | | ✓ | | G4J3BG | | ✓ | | KNUWBQ | | ✓ | |
| CWVQ6D | ✓ | ✓ | | G8K7XW | | ✓ | | KP4F6E | | ✓ | |
| CXKBJV | | ✓ | | G9AL4Y | | ✓ | | KRCLNV | | ✓ | |
| CZXP HQ | | ✓ | | GFA4FP | | ✓ | | KRX22C | | ✓ | |
| D24HPB | | ✓ | | GH6FLQ | | ✓ | | KZNNW9 | | ✓ | |
| D9M4CM | | ✓ | | GLH9AB | | ✓ | | L7QL6Y | | ✓ | |
| DC42BB | ✓ | ✓ | | GURQPN | | ✓ | | LDPKMU | | ✓ | |
| DEATWW | | ✓ | | GWJRTQ | | ✓ | | LK6JUE | | ✓ | |
| DF36NW | | | GC/MS/FID | GZJXZ | | ✓ | | LUYJFY | | ✓ | |
| DFKNLV | | ✓ | | GZYDLX | | ✓ | | LVPN97 | | ✓ | |
| DRG3TZ | | ✓ | | H3KRW7 | ✓ | ✓ | | LVU8W9 | | ✓ | |
| DRGKX6 | | ✓ | | H73GCW | | ✓ | | M6B9Q9 | | ✓ | |
| DXQTA8 | | ✓ | | HDMJBL | | ✓ | | M78P47 | | ✓ | |
| DYDC7Y | | ✓ | | HEVT4J | ✓ | ✓ | | M8GUGU | | ✓ | |
| E2HH4K | | ✓ | | HJQMYV | | ✓ | | MCBNG | | ✓ | |
| E4NB9W | | ✓ | | HJRDDU | | ✓ | | G | | | |
| | | | | | | | | MCFMN4 | ✓ | ✓ | |

TABLE 3

| WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other |
|-------------|----|-------|-------|---------|----|-------|-------|---------|----|-------|--------------------|
| MDRPL4 | | ✓ | | R2F9HE | | ✓ | | VAFM7K | ✓ | ✓ | |
| MM8QQ | | ✓ | | REPNTY | | ✓ | | VBV2HZ | | ✓ | |
| C MTLCRW | | ✓ | | RLN9PU | | ✓ | | VC72J2 | | ✓ | |
| MUAF82 | | ✓ | | RN3ZLN | ✓ | ✓ | | VC8AUL | | ✓ | |
| MZFLTE | | ✓ | | RPJ6CZ | | ✓ | | VECCPC | | ✓ | |
| N677NG | | ✓ | | RPMPZ3 | | ✓ | | VJ3WEE | | ✓ | |
| N8CJEV | | ✓ | | RV9RYT | | ✓ | | VJH3RH | | ✓ | |
| NAME8F | | ✓ | | T4GGEC | | ✓ | | VRD6WF | | ✓ | |
| NBE6YR | | ✓ | | T4ML32 | | ✓ | | VTPU7J | ✓ | ✓ | |
| NDKVGN | | ✓ | | T9QJG8 | | ✓ | | VU6WED | | ✓ | |
| NQR4Y7 | ✓ | ✓ | | T9RMYP | | ✓ | | VWT3JM | | ✓ | |
| NWEMB9 | | ✓ | | TA4DYT | | ✓ | | VXAKU3 | | ✓ | |
| P6NKLJ | | ✓ | | TBGTGZ | | ✓ | | W22LHF | | ✓ | |
| PBDXLL | | ✓ | | TCAQML | | ✓ | | W3V7RF | | ✓ | |
| PBQQY2 | | ✓ | | TK2CLT | | ✓ | | W4LV6L | | ✓ | |
| PDEAWR | | ✓ | | TMC8GX | ✓ | ✓ | | W4RF9C | | ✓ | |
| PEFXN4 | | ✓ | | TPGNMF | | ✓ | | W9L94R | ✓ | ✓ | odor assessment |
| PEP6MQ | ✓ | ✓ | | TUP8MU | | ✓ | | WDVR3K | | ✓ | |
| PKZ2QZ | ✓ | ✓ | | TV3U69 | | ✓ | | WF3HEM | | ✓ | |
| PQ7ULV | | ✓ | | TVJTEY | | ✓ | | WMHN68 | | ✓ | |
| PQLZYZ | ✓ | ✓ | | TXUJY2 | | ✓ | | WVTH6L | ✓ | ✓ | |
| PTCCLC | | ✓ | | TY6N8J | | ✓ | | WZNGXJ | | ✓ | |
| PTV248 | | ✓ | | TYNEBC | | ✓ | | X9WPLX | | ✓ | |
| PU8XDH | | ✓ | | UCA24B | | ✓ | | XCU2MP | | ✓ | |
| PYZWPT | | ✓ | | UD7HG8 | | ✓ | | XFXPDD | | ✓ | |
| Q42P4F | | ✓ | | UH9KAM | | ✓ | | XK76PH | | ✓ | |
| Q7CKTT | | ✓ | | ULDEZ6 | | ✓ | | XP6WYL | | ✓ | |
| Q93F3G | | ✓ | | UNG4BZ | | ✓ | | XRQFMJ | | ✓ | |
| QHMTVK | | ✓ | | UTCZVK | | ✓ | | XVDX64 | | ✓ | |
| QKQQ4R | | ✓ | | V24Q3D | | ✓ | | XY8EBN | | ✓ | |
| QRUVBW | | ✓ | | V3DKZY | ✓ | ✓ | | Y3L2DE | | ✓ | |
| QVA3GQ | | ✓ | | V3Y6XJ | | ✓ | | Y6B9VQ | ✓ | ✓ | |
| QZNKTF | | ✓ | | V8R4AT | ✓ | ✓ | | YAQMJW | | ✓ | |

TABLE 3

| WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other | WebCode | GC | GC/MS | Other |
|---------|----|-------|-------|---------|----|-------|-------|---------|----|-------|-------|
| YDP4RK | | ✓ | | | | | | | | | |
| YFVGHY | | ✓ | | | | | | | | | |
| YFWERU | | ✓ | | | | | | | | | |
| YQ9TKV | | ✓ | | | | | | | | | |
| YTLCVD | | ✓ | | | | | | | | | |
| YUTKWX | | ✓ | | | | | | | | | |
| YV83Y4 | | ✓ | | | | | | | | | |
| YXUUU7 | ✓ | ✓ | | | | | | | | | |
| Z6TJAP | | ✓ | | | | | | | | | |
| ZAJLYM | | ✓ | | | | | | | | | |
| ZT2P23 | | ✓ | | | | | | | | | |
| ZT2TQ7 | ✓ | ✓ | | | | | | | | | |
| ZTEUKD | | ✓ | | | | | | | | | |
| ZZWVTH | | ✓ | | | | | | | | | |
| ZZWYYE | | ✓ | | | | | | | | | |

| Response Summary | | |
|-------------------------|-----------|------------|
| Participants | GC | GC/MS |
| 309 | 38 | 305 |

Conclusions

TABLE 4

| WebCode | Conclusions |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 23FAUX | A medium miscellaneous product was detected in Item 1. Examples of a medium miscellaneous product include but are not limited to turpentine and some specialty products. Gasoline was detected in Item 2. No ignitable liquids were detected in Item 3. |
| 26LXQE | No ignitable liquids were identified in the control bag (item 3). Item 1: turpentine product. Item 2: gasoline. |
| 2CAC3Z | Item #1) The item tested positive for the presence of a medium range miscellaneous product. The item contains a significant amount of monoterpenes. Examples of items in this classification are turpentine products. Item #2) The item tested positive for the presence of gasoline. This classification includes all brands and grades of gasoline including oxygenated products. Item #3) No ignitable liquid was detected. |
| 2TP2K7 | Exhibit "A" (Item 1) contained medium miscellaneous as per ASTM E 1618-14 classification but was found not to be comparable to a commonly known ignitable liquid standard. Exhibit "B" (Item 2) contained gasoline as per ASTM E 1618-14 classification, which is comparable to the commercial product Petrol. No commonly known ignitable liquid could be identified in Exhibit "C" (Item 3). |
| 3234P8 | Item 1 contains a mixture of terpenes, typical of a turpentine solvent. Item 2 contains a refined petroleum fuel mixture identified as gasoline. |
| 37WZEY | Item 1: A cloth which was analysed for the presence of ignitable liquid residues and medium miscellaneous product containing compounds likely to be terpenes and terpenoids were detected in the exhibit marked "Item 1". Item 2: A cloth which was analysed for the presence of ignitable liquid residues and light to medium miscellaneous product containing compounds likely to be C6 to C13 straight chain and branched alkanes, toluene, ethylbenzene, xylenes, C3 and C4 alkybenzenes were detected in the exhibit marked "Item 2". Item 3: A cloth which was analysed for the presence of ignitable liquid residues and none was detected in the exhibit marked "Item 3". Note: Terpenes and terpenoids are compounds commonly found in turpentine oil. |
| 382UM4 | 1) In the sample received and labeled as item 1, it was detected the presence of one mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Methods as Medium others-miscellaneous (turpentine). 2) In the sample received and labeled as item 2, it was detected the presence of substances which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Methods as Gasoline (see others additional comments [Table 5-Additional Comments]). 3) In the sample received and labeled as "Control Bag", it were not detected any mixture which can be classified in the scheme proposed by the ASTM E 1618-14 Standard Method (see additional comment [Table 5-Additional Comments]). 4) The others-miscellaneous and the gasoline are ignitable liquids. Ignitable liquid may start or accelerate a fire. The identification of an ignitable liquids residue in the item 1 and 2, does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. |
| 39J3CC | Evidence examined: #001 #1 Box with "Proficiency test materials". Results of examination: 1. GC/MS analysis revealed the presence of terpenes related to turpentine on the sample marked "Item 1". 2. GC/MS analysis revealed the presence of a medium boiling range petroleum distillate on the sample marked: "Item 2". 3. GC/MS analysis failed to reveal the presence of a flammable liquid on the sample marked "Item 3". |
| 3FWQVZ | Item 1: Item 1 was subjected to passive adsorption – elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a medium miscellaneous ignitable liquid. Examples of medium miscellaneous ignitable liquids include (but are not limited to): turpentine products, some blended products, and some specialty products. Item 2: Item 2 was subjected to passive adsorption – elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of gasoline (all brands and grades of automotive gasoline, including gasohol and E85). Item 3: Item 3 was subjected to passive adsorption – elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. GC/MS analysis shows no ignitable liquids identified. The presence |

TABLE 4

| WebCode | Conclusions |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | of ignitable liquids in Item 1 and Item 2 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of the ignitable liquids |
| 3L9R24 | Item 1 (LIMS #1-1): An ignitable liquid was detected in item 1. The ignitable liquid is classified as a medium miscellaneous product. Examples of medium miscellaneous ignitable liquids include single-component products, turpentine, blended products, or speciality products. Item 2 (LIMS #1-2): Item 2 contains gasoline. Gasoline is an ignitable liquid. Item 3 (LIMS #1-3): An ignitable liquid was not detected. |
| 3PLGF7 | Examination of Item #1 revealed the presence of a miscellaneous product containing terpenes. Miscellaneous products include turpentine products, some blended products and some specialty products. Examination of Item #2 revealed the presence of residual gasoline. |
| 3PLLNN | On examination and analysis, i found: i) Item 1 to contain medium class of others-miscellaneous and Item 2 to contain of gasoline. ii) No ignitable liquid detected in Item 3. |
| 3RCDBR | 1. Volatile residues from Exhibits 1 (suspected cloth wick remnant located on the vehicle's back seat), 2 (suspected cloth wick remnant located on the vehicle's front passenger side floor), and 3 (terrycloth substrate intended as a comparison blank in a nylon evidence bag) were collected using simple heated headspace and passive headspace concentration techniques, and were analyzed using gas chromatography-mass spectrometry (GC-MS) for the presence of ignitable liquid residues. 2. A miscellaneous product consisting of terpene-type compounds was identified in the concentrated headspace vapors from Exhibit 1. Examples of commercial products in the miscellaneous classification would include turpentine products, some blended products, and some specialty products. 3. Gasoline was identified in the concentrated headspace vapors from Exhibit 2. 4. No ignitable liquid residues were detected in the concentrated headspace vapors from Exhibit 3. |
| 3T7DX6 | Item 1 contained a medium miscellaneous[isic] ignitable liquid and Item 2 contained gasoline as per ASTM 1618-14, whilst no ignitable liquid was present on Item 3. |
| 3VVPPN | A gasoline residue was identified in item 1-2. No ignitable liquids were detected in item 1-3. A miscellaneous product was identified in item 1-1. Some examples of a miscellaneous product would include some brands of turpentine products, some specialty products. |
| 3WBPBY | Item 1) Terpenes were identified in the sample. Terpenes are ignitable liquids that are a natural component in some softwoods and are also found in turpentine solvents and pine-based cleaners. Item 2) Gasoline was identified in the sample. Item 3) No ignitable liquids/or ignitable liquid residues were identified in the sample. |
| 3WTBR9 | Item 001: A miscellaneous turpentine product was identified in item #001. Terpenes were identified by the mass spectra of individual components. Terpenes are found in turpentine solvents and pine-based cleaners. Item 002: Gasoline was identified in item #002. |
| 3XEUDK | The following items were examined for ignitable liquids: Item 1 Suspected cloth wick remnant located on the vehicle's back seat. Analysis Result: Terpenes were detected on the cloth wick of Item 1. Terpenes are a natural product of some wood and are extracted commercially for turpentine. Natural wood terpenes cannot be distinguished from commercially prepared turpentine. Item 2 Suspected cloth wick remnant located on the vehicle's front passenger side floor. Analysis Result: Gasoline was detected on the cloth wick of Item 2. The terrycloth substrate of Item 3 is intended as a comparison blank. Analysis was performed using gas chromatography with mass spectrometry. |
| 42EDYJ | The following items were examined for the presence of ignitable liquids: Item 1.1 Cloth from vehicle's back seat (Item 1). Analysis Result: A medium miscellaneous product was detected on the Item 1.1 cloth. Examples of medium miscellaneous products include turpentine and some cleaning solvents. Item 1.2 Cloth from vehicle's front passenger side floor (Item 2). Analysis Result: Gasoline was detected on the Item 1.2 cloth. Item 1.3 Cloth substrate blank (Item 3). Analysis Result: No ignitable liquid was detected on the Item 1.3 cloth substrate blank. Analysis was performed by gas chromatography/mass spectrometry (GC/MS). |
| 42UQBA | On analysis, I found Item 1 to bear traces of others-miscellaneous (medium class). On analysis, I found Item 2 to bear traces of gasoline. |

TABLE 4

| WebCode | Conclusions |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 447MHE | Within the limits of the applied methodology : the compounds detected in item 1 are components of some ignitable liquids such as turpentines or essential oils. However, the combination of these compounds does not fully correspond to any of our reference compounds. The presence of gasoline was revealed in item 2. However, the combination of the detected compounds does not fully correspond to any of our reference gasolines. No ignitable liquid residue was detected in item 3 (blank item). |
| 44MZLH | Items 1, 2 and 3 were submitted for the purpose of determining if ignitable liquids were present in the samples. Items 1, 2, and 3 as well as a control bag were analysed for ignitable liquids. The procedure involves extraction and concentration of volatile organic compounds using an activated charcoal strip and then analysis using gas chromatography with mass spectrometry (GC-MS). GC-MS separates and detects organic mixtures and provides information of the chemical structure of the individual components. The detection of an ignitable liquid does not necessarily mean that the cloth analysed was part of an incendiary device as there may be legitimate reasons for the presence of an ignitable liquid. If an ignitable liquid is not detected then this does not necessarily indicate that an ignitable liquid wasn't present. Possible explanations are: Ignitable liquid was present but the tests used were not sensitive enough to confirm this. Ignitable liquid was present but had evaporated prior to the tests being conducted. The accelerant used was not a common ignitable liquid. Results: Item 1 - Miscellaneous Ignitable Liquid detected - No specific product with the same composition has been identified. Item 2 - Petrol identified. Item 3 - Nil common ignitable liquids detected. [sic] |
| 46GX66 | Sample 1: class = other; sub-class = medium; components are primarily terpenes; consistent with turpentine. Sample 2: consistent with gasoline. |
| 4FZXT7 | Terpenes were detected in Item 1. Terpenes are commonly found in natural wood products and in turpentine. The source of the terpenes cannot be determined. Gasoline was detected in Item 2. No ignitable liquid residues were detected in Item 3. |
| 4GAKBZ | ITEM 1 = contained terpenes and pinenes from gum spirit turpentine. ITEM 2 = contained a mix of medium petroleum distillate[sic] (alkanes from C9 to C12) and gasoline (aromatics) |
| 4HLERZ | Item 1 was found to contain pinene, camphene, and limonene. These chemicals are commonly found in turpentine, a commercially available product. Turpentine is classified as an ignitable liquid. Residues of gasoline were identified on Item 2. No ignitable liquid residues were detected on Item 3. |
| 4LY9LC | A medium miscellaneous product was identified in Item 1. Examples of miscellaneous products include turpentine products, some blended products and some specialty products. Gasoline was identified within Item 2. |
| 4N8GN6 | Item 1 - A chemical profile, indicative of a class of natural products relating to turpentine was detected on this item. These products can be used as specialist paint solvents and household cleaning agents. Item 2 - Petrol (gasoline[sic]) was detected on this item. |
| 4NQZXH | Item1: Analysis reveals the presence of a terpene profile and presence of toluene. This is probably a mixture. Among the products containing terpenes we found turpentine or derivative, used in particular as a cleaning solvent or paint thinner. Toluene is also used as a solvent or cleaner. Item2: Analysis indicate the presence of Gasoline with the presence of alkanes in the range of C7 to C13. This profile is compatible with a state of Gasoline evaporated or burned, but also might indicate a potential mixture with a medium petroleum distillate include but is not limited to, some solvents and some charcoal starters. Item3: No ignitable liquid were detected in the comparison sample. [sic] |
| 4QG8AR | In Item 1 a flammable liquid - turpentine - was found. Turpentine is a colourless or yellowish liquid with strong, characteristic scent and is available on market and used as a solvent. It is also used medicinally. In item 2 another flammable liquid - gasoline - was found. |
| 4T3Z22 | Item #1 - The presence of a miscellaneous ignitable liquid was detected in this sample. Item #2 - The presence of Gasoline was detected in this sample. |
| 4W3EJK | Item #1 An ignitable liquid residue consistent with turpentine, a miscellaneous ignitable liquid, was identified[sic] in Item #001. Item #2 A residue of gasoline, an ignitable liquid, was identified in Item #002. Item #3 No ignitable liquid residues were detected in Item #003. |

TABLE 4

| WebCode | Conclusions |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4WNNVA | Terpenes were identified in Lab Item 1. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine based cleaners. Gasoline was identified in Lab Item 2. No ignitable liquids were identified in Lab Item 3. Samples of recovered materials from this case have been preserved with the evidence. |
| 4XXH7K | A volatile ignitable liquid (terpene based product) was identified in Item 1. Volatile ignitable liquids (gasoline and a heavy petroleum distillate) were identified on Item 2. Volatile ignitable liquids were not identified in Item 3. |
| 4XXN32 | Item 1 was analyzed using Gas Chromatography / Mass Spectrometry (GC/MS). This sample contains an ignitable liquid known as terpenes, which are naturally occurring in some types of wood. An example of a product containing terpenes is turpentine. Item 2 was analyzed using Gas Chromatography / Mass Spectrometry (GC/MS). This sample contains an ignitable liquid in the gasoline class. Item 3 was analyzed using Gas Chromatography / Mass Spectrometry (GC/MS). No ignitable liquids were identified. It should be noted that ignitable liquids may evaporate or can be totally consumed during a fire. A negative finding of ignitable liquids does not preclude its presence during a fire. |
| 4YRQEJ | The samples were analyzed by gas chromatography-mass spectrometry for presence of ignitable liquids. Item #1: Instrumental analysis detected the presence of terpene type compounds. Turpentine products identified, which is classified in Others-Miscellaneous classes by ASTM 1618-2014 standard. Item #2: Instrumental analysis detected high levels of alkanes and alkylbenzenes in the C9-C13 range, so in the sample medium petroleum distillates is identified. Item #3: No ignitable liquids were detected in the sample. |
| 62EKX6 | A turpentine product was detected in item 1. Examples of turpentine are some commercial grade turpentine and wood products. Gasoline was identified in item 2. No ignitable liquid was detected in item 3. The above items were analyzed by gas chromatography-mass spectrometry (GC-MS). |
| 63NKZR | Item 1 - Alpha pinene and Camphene were identified in Item 1. Alpha pinene and Camphene are found in turpentine (a medium miscellaneous product), some cleaning products, and also occur naturally in some woods. Item 2 - Gasoline was identified in Item 2. |
| 64KZCN | Item 1 (Exhibit 1) – A medium range miscellaneous class of ignitable liquid containing a Turpentine product was detected. Item 2 (Exhibit 2) – Gasoline was detected. Item 3 (Exhibit 3) – No ignitable liquid was detected. |
| 68EYH8 | 1) No ignitable liquid identified 2) Gasoline found |
| 6BYXRV | Flammable liquids were detected in the sample labeled Item 1. These substances were identified as turpentine. Flammable liquids were detected in the sample labeled Item 2. These substances were identified as gasoline. [sic] |
| 6G4P4D | Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Lab Item #1: Terpenes were identified. Terpenes are used in some turpentine solvents and some pine-based cleaners, but are also common to softwoods. Lab Item #2: Gasoline was identified. Lab Item #3 (Comparison Sample for Lab Items #1 and #2): No ignitable liquids were identified. The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. |
| 6JT4NG | Item 1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Miscellaneous Product. Examples of a Medium (C8-C13) Miscellaneous Product include turpentine products, some blended products, and some specialty products. Item 2: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Gasoline. Item 3: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified. |
| 6MRG9L | Note:-In our internal Technical Report , the consideration of results is focusing on Petroleum Distillate and Gasoline classes mainly, because it's our major products of the local refinery, which usually causes arson offenses(accidents). we conclude the results as the following. Item 1: doesn't contain any |

TABLE 4

| WebCode | Conclusions |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | material of the petroleum Products (notice the additional comments below [Table 5-Additional Comments] for more clarifications) . Item 2: contains the subjects of Gasoline and Kerosene which are considered as petroleum products. |
| 6NL3ZR | Item 1: Terpenes were detected in Item 1. Terpenes are found in turpentine solvents, some cleaning products and are naturally occurring in some types of woods. Item 2: Gasoline was detected in Item 2. Examples include all brands of gasoline and gasohol. Item 3: No ignitable liquids were detected in Item 3. |
| 6QQL7Z | No ignitable liquid was detected on item 3 that was intended as comparison blank. On item 1 (suspect cloth wick remnant on the vehicle back seat), a turpentine product was detected. On item 2 (suspect cloth wick remnant on the vehicle front passenger side door), gasoline with traces of haevy petroleum distillate were detected.[sic] No similarities found on item 1 and 2. |
| 6R2T88 | Item 1 contains 1,7,7-trimethyltricycloheptane, alpha-pinene and camphene. Base on these compounds, we suspected that other-miscellaneous(medium to heavy) were used on the vehicle's back seat. Item 2 contains toluene, C2-alkylbenzenes, C3-alkylbezenes and trace ethanol. Base on these compounds, we suspected that gaoline were used on the vehicle's front passenger side floor.[sic] |
| 6R8V2L | Terpenes, which are ignitable liquids, were identified in Exhibit 1. Terpenes consistent with those detected are essential components of turpentine and are naturally occurring in some types of wood. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were identified in Exhibit 3. |
| 73GYJ2 | Item one was found to contain turpentine (a miscellaneous petroleum product). Item two was found to contain a miscellaneous petroleum product that cannot be identified at this time. No ignitable liquids were detected in Item 3. |
| 73ZN63 | Item 1 is positive for a Medium Miscellaneous product that contains terpenes. Item 2 is positive for Gasoline. Gasoline includes all brands and grades and of automotive gasoline including gasohol. |
| 7A3NMK | A miscellaneous product was identified in Item 1. Some examples of miscellaneous products would include some brands of turpentine, speciality solvents and insecticides. Gasoline was identified in Item 2. |
| 7AKQ6T | we analyzed each sample with SPME/GC/FID and SPME/GC/MS methods at room temperatuare , 50 C and 80 C . And then each sample is extracted with n-hexane and analyzed with GC/MS and GC/FID. It is found that item 1 includes turpentine-mono terpenes (alpha pinene, çarene etc.) and item2 includes aromatic producton (abuntant), indanes (abundant), naphthalenes(abundant), n-and iso - alkanes (C8-C13, abundant), cyclic alkanes(abundant). Because of these products , we decided that items2 is mix of gasoline and medium petroleum distillate(MPD). [sic] |
| 7F8KBQ | Gas chromatographic mass spectral (GC-MS) analysis of Item 1 and Item 2 revealed the presence in high amounts of ignitable liquid residues in both items. Item 1 (Suspected cloth wick remnant located on the vehicle's back seat) contained a mixture of terpenes (a-pinène major, camphène, B-pinène, d-limonène, longifolène) terpene alcohols and other related terpene compounds. These are present in turpentine or compounds extracted from turpentine. Turpentine is used in cleaning solvent, paint and varnish thinner, shoe and furniture polishes, metal cleaner. Terpenes and other compounds extracted from turpentine can be used for such products as flavors and fragrance, cosmetics, paints and pharmaceuticals. Item 2 (Suspected cloth wick remnant located on the vehicle's front passenger side floor) contained evaporated gasoline. Item 3 was analyzed for comparative purposes only |
| 7GHBE2 | Item 1 was found to be positive for a medium range miscellaneous substance as a turpentine product. Item 2 was found to be positive for residues of gasoline. Item 3 intended as a comparison blank, was found to be negative for the presence of an ignitable liquid. |
| 7HWQVM | Item 1 contains an unidentified petroleum product. Item 2 contains gasoline. Item 3 contains no ignitable liquids. A negative result means that this laboratory did not identify ignitable liquids in the submitted sample. |
| 7HWZD8 | These samples were analyzed using GC and GC/MS. Others-Miscellaneous compounds in the medium to heavy range(C10~C15) were identified in item 1, such as camphene, alpha-pinene, etc. |

TABLE 4

| WebCode | Conclusions |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | and gasoline was identified in in[sic] item 2. |
| 7QMTGQ | 1. Medium range terpenes were detected in Item 1, uses of which include, but are not limited to, solvents such as turpentine (an ignitable liquid); flavouring, fragrance and perfumery materials; the manufacture of cleaning products; and as a constituent of many essential oils. Medium range terpenes are ignitable liquids and could act as a fire accelerant. 2. Gasoline was detected in Item 2. Gasoline is an ignitable liquid and could act as a fire accelerant. 3. No ignitable liquid, or its residue, was detected in Item 3. |
| 7TWNEG | Item 1 was determined to contain the following: A Medium Miscellaneous Ignitable Liquid, examples of which include turpentine products, some blended products and some specialty products. Item 2 was determined to contain the following: Evaporated Gasoline, examples of which include all brands and grades of automotive gasoline, including gasohol. Item 3 was determined to contain the following: No ignitable liquids were identified. Submitted as a comparison sample for terrycloth and Kapak bags used for sample preparation. |
| 7V4EPJ | A range of terpenes, including alpha-pinene and camphene were tentatively identified on Item 1. Alpha-pinene and camphene are listed as having moderate and high flammability, respectively, by Chemwatch, which is an on-line chemical database. In my opinion this mixture would be flammable and could be from a source such as wood turpentine or a similar solvent. Gasoline and ethanol were detected on Item 2. In my opinion, the ethanol could be present as a component of the gasoline. No ignitable liquid residues were detected on Item 3. |
| 7Y37MG | An ignitable liquid is detected on item (1) and found to be Turpentine[sic] which falls under the class (Miscellaneous). An ignitable liquid is detected on item (2) and found to be medium Petroleum distillate. No ignitable liquid is detected on item (3). |
| 7YXRDM | [No conclusion reported.] |
| 7ZULBC | Analysis of Item 1 revealed the presence of an Others-Miscellaneous class. Examples of this class are turpentine products, some blended products, and some specialty products. Analysis of Item 2 revealed the presence of gasoline. |
| 83DLRY | [No conclusion reported.] |
| 84C7V8 | 1: Analysis revealed the presence of Terpenes. Terpenes are naturally occurring compounds in wood and may be found in some ignitable liquids (i.e. turpentine). 2: Analysis revealed the presence of gasoline. 3: No ignitable liquids detected. |
| 86GCWT | A miscellaneous ignitable liquid, consistent with known terpenoids, ranging from C8 - C13, were detected in the sample. Commercially available products containing these components include, but are not limited to, turpentines, coniferous woods and other specialty application products. Gasoline was detected in Item 2. No ignitable liquids were detected in Item 3. |
| 8GDHPR | Item No-1 can Be Classified as Miscellaneous Category and the SubClass is Medium (C8-C13). Item No-2 is Identified as Gasoline. |
| 8JN8KP | Item 1: Medium turpentine products. Item 2: A mixture of gasoline and a medium petroleum distillate. Examples of this distillate include some paint thinners and some specialty solvents. Medium petroleum distillates are also found in some shoe polish, wood staining products, insecticides and automobile cleaner products. |
| 8LDFR6 | A heat-sealed polymer bag (Item 1) held a square of white fabric. A medium- range miscellaneous ignitable liquid residue was identified in this item. Medium-range miscellaneous products include, but are not limited to, turpentine, some blended products, and some specialty products. A heat-sealed polymer bag (Item 2) held a square of white fabric. An ignitable liquid residue of gasoline was identified in this item. A heat-sealed polymer bag (Item 3) held a square of white fabric. This item was evaluated as a comparison sample. No ignitable liquid residues were detected. |
| 8PUD6E | Item 1: A flammable product resembling gum turpentine was identified. Item 2: Petrol was identified. |
| 8Q2EP8 | On analysis, I found that Item 1 was consistent with medium miscellaneous. While, Item 2 was consistent with gasoline. |

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| 8QPL6Q | The analyses performed in our laboratory on item 1 enable the detection of turpentine in this sample and on item 2 enable the detection of gasoline. However, the analyses performed on item 3 did not show the presence of any ignitable liquid in this sample. |
| 8RV3AN | Item 1 (suspected cloth wick remnant located on the vehicle's back seat) was found to be a miscellaneous product. Some examples of medium products such as turpentine products, some blended products and some specialty products. Meanwhile, Item 2 (suspected cloth wick remnant located on the vehicle's front passenger side floor) was found to be a medium aromatic product. Some examples of aromatics products are fuel additives, some insecticide vehicles and some automotive parts cleaners. No ignitable liquid was detected within Item 3 (Terrycloth substrate intended as a comparison blank in a nylon evidence bag). |
| 8TERPN | Analysis of Item 1 revealed the presence of turpentine, an ignitable liquid. Analysis of Item 2 revealed the presence of gasoline. Analysis of Item 3 failed to reveal the presence of identifiable flammable or combustible liquids. |
| 8TQNVN | Item 1. Alicyclic compounds (terpenes) were detected. Two chromatographic pattern obtained were compatible with turpentine. Item 2. n-alkanes in the range of octane to dodecane (C8-C12) and aromatic compounds (alkylbenzenes) were detected. The chromatographic pattern obtained was compatible with Gasoline. |
| 8WTLCM | Item 1 - Turpentine. Item 2 - Petrol. |
| 97AM8M | Others-miscellaneous was detected Item 1 and gasoline was detected in Item 2. |
| 97APWQ | A miscellaneous ignitable liquid, consistent with known terpenoids, ranging from C8 - C13, was detected in the sample. Commercially available products containing these components include, but are not limited to, coniferous wood products, turpentines and other specialty application products. Gasoline was detected in Item 2. No ignitable liquids were detected in Item 3. |
| 99M7KQ | The volatile contents of items 1, 2, and 3 were extracted using a passive carbon adsorption/elution technique and analyzed by gas chromatography-mass spectrometry (GC-MS). Terpenes were identified in Item 1. Possible sources of terpenes include but are not limited to wood, wood products, turpentine, some cleaning products, and some solvents. Gasoline was identified in Item 2. No ignitable liquid residues were identified in Item 3. |
| 9AWAU9 | Gas Chromatography Mass Spectrometry: Turpentine, a medium range miscellaneous class product, was detected in Item 1. Gasoline was detected in Item 2. No ignitable liquids were detected in Item 3. |
| 9MJXBE | Item 1 was found to contain wood turpentine or a related product such as spirits of turpentine. Item 2 was found to contain petrol. |
| 9PQDJ6 | Analysis by Gas Chromatography/Mass Spectrometry of the gauze (Item 1A) reveals the presence of terpenes. Terpenes can originate from soft woods and are a major constituent of turpentine products. Analysis by Gas Chromatography/Mass Spectrometry of the gauze (Item 1B) reveals the presence of gasoline. Analysis by Gas Chromatography/Mass Spectrometry of the gauze (Item 1C) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol, and acetone. |
| 9QHVEY | Item 1: Terpenes were identified. Terpenes are found in turpentine solvents, pine-based cleaners and are also a natural component of some softwoods. Turpentine is an ignitable liquid which is commercially available and may be used as a thinner for oil-based paints. Item 2: Gasoline was identified. Item 3: No ignitable liquid was identified. |
| 9WQYML | 1. Volatile residues from Exhibits 1 (suspected cloth wick remnant located on the vehicle's back seat), 2 (suspected cloth wick remnant located on the vehicle's front passenger's side floor), and 3 (terrycloth substrate intended as a comparison blank in a nylon evidence bag) were collected using direct and passive headspace concentration techniques and analyzed using gas chromatography/mass spectrometry for the presence of ignitable liquid residues. 2. A medium range miscellaneous product, containing several terpene compounds, was identified in the concentrated headspace vapors of Exhibit 1. Ignitable liquids belonging to this class are commercially available as turpentine products, some blended products, and some specialty products. 3. Gasoline was identified in the concentrated headspace vapors of Exhibit 2. 4. No ignitable liquid residues were detected in the |

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| | concentrated headspace vapors of Exhibit 3. 5. It should be noted that the identification of an ignitable liquid residue in a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. |
| 9X4QF3 | Items 1 and 2 were extracted using passive adsorption-elution and solvent techniques. Item 3 was extracted using a passive adsorption-elution technique. The item 1, 2, and 3 extracts were examined using Gas Chromatography-Mass Spectrometry (GC-MS). An item 1 extract was examined using Gas Chromatography (GC). An item 1 extract contained terpenes. It should be noted that terpenes occur naturally in some woods and are also found in turpentine (a miscellaneous product) and some cleaning products. An item 2 extract contained gasoline. No ignitable liquids were identified in the Item 3 extract. |
| 9XFK26 | I found that Item 1 to contain ignitable liquid of others-miscellaneous class and medium (C8-C13) subclass. I found Item 2 to contain ignitable liquid of Gasoline class. The above classifications are based on the ASTM E 1618-14 Ignitable Liquid Classification Scheme. |
| A89YWN | A mid-range miscellaneous product like that in some turpentine products was present in item #1. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine-based cleaners. Gasoline was present in item #2. No ignitable liquids were identified in item #3. |
| A9K9U8 | The results of the examination extremely[sic] strongly support that Item 1 contains ignitable liquid, a turpentine product. The results of the examination extremely[sic] strongly support that Item 2 contains ignitable liquid of gasoline type. |
| AAUFWZ | Terpenes were detected in Item 1. Terpenes are commonly found in natural wood products and in turpentine. Due to the nature of the evidence, and the apparent absence of any wood products, the most likely source of the terpenes would be a Miscellaneous product, such as natural turpentine or a turpentine substitute. Gasoline was detected in item 2. No ignitable liquid residues were detected in Item 3 (substrate control). |
| ABFT7P | Item 1: A miscellaneous ignitable liquid was detected. Examples: Single compounds, turpentines and specialty mixtures. Item 2: Gasoline was detected. Examples: All brands and grades of automotive gasolines and gasohol. |
| AFXPGV | The items were examined for the presence of hydrocarbon fire accelerants e.g. white spirits, petrol, paraffin oil, diesel oil, etc. Sample 1 was found to contain partly evaporated 1R-alpha-pinene vapour (alpha-pinene) and partly evaporated camphene vapour. Both alpha-pinene and camphene are flammable substances. Examples of products containing alpha-pinene include turpentine, insecticides and solvents. Examples of products containing camphene include turpentine and essential oils. Sample 2 was found to contain partly evaporated petrol vapour. Sample 2 was also found to contain partly evaporated light isoparaffinic vapour products. No such hydrocarbons were detected in sample 3. |
| AHGXCN | In Item 1 is detected the presence of Turpentine Products (Medium class). In Item 2 is detected a mixture of ignitable liquids: Evaporated Gasoline and Heavy Petroleum Distillate. |
| APGENE | A medium miscellaneous product was present in Item #1. Products in this range include, but are not limited to, some types of blended products and turpentines. Gasoline was present in Item #2. No ignitable liquid residues were detected in Item #3, the comparison sample. |
| AQBZFK | Item 1 consists of tricyclene, 2-pinene, camphene, and dehydrosabinene which are estimated (by searching NIST database). So, Item 1 is miscellaneous. Item 2 consists of isoparaffinic product(major C8) and petroleum distillates (C11~C13). So, Item 2 is also miscellaneous. |
| AQWM3A | Item 1: Terpenes found. Terpenes are found in turpentine and some cleaning products. Item 2: Gasoline found. This includes any brand or octane, as well as any alcohol-blended gasoline. Item 3: No ignitable liquids found. |
| ARR77W | The following items were analyzed utilizing Gas Chromatography/Mass Spectrometry (GC/MS). Item 1A Sample contains an ignitable liquid known as terpenes, which are naturally occurring in some |

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| | types of wood. An example of a product containing terpenes is turpentine. Item 1B Sample contains an ignitable liquid in the gasoline class. Item 1C No ignitable liquids were identified. It should be noted that ignitable liquids may evaporate or can be totally consumed during a fire. A negative finding of ignitable liquids does not preclude its presence during a fire. |
| AX2WFA | Item 1: The piece of white cloth contains a miscellaneous (turpentine) ignitable liquid residue. Item 2: The piece of white cloth contains a gasoline ignitable liquid residue. Item 3: An ignitable liquid residue was not detected on the piece of white cloth. |
| AZ7YBZ | Item1: 1.Major seven peaks are typically in the range C9-C13. 2.Major peaks identified as turpentine products by mass spectra library search. Item2: 1.Major peaks are typically in the range <C13. 2.Above n-C7, the aromatic concentration is substantially higher than the alkane concentration. 3.Gasoline target compounds were detected . Item3: No ignitable liquids were detected. |
| B3RQT2 | The suspected cloth wick remnant located on the vehicle's back seat contains a medium others-miscellaneous ignitable liquid residue. Medium others-miscellaneous ignitable liquids can include turpentine products, some blended products, and some specialty products. The suspected cloth wick remnant located on the vehicle's front passenger side floor contains gasoline residues. |
| B9CDGY | Items 1, 2, and 3 were each extracted using a passive adsorption-elution technique. The items 1, 2, and 3 extracts were each examined using Gas Chromatography-Mass Spectrometry (GC-MS). Item 1 was also examined using Gas Chromatography (GC). The item 1 extract contained terpenes. It should be noted that terpenes occur naturally in some woods and are also found in turpentine (a miscellaneous product) and some cleaning products. The Item 2 extract contained gasoline. No ignitable liquids were identified in the Item 3 extract. |
| BCBPCY | Items 1, 2, and 3 were extracted using a passive adsorption-elution technique. The Item 1, 2, and 3 extracts were examined using Gas Chromatography-Mass Spectrometry (GC-MS). Item 1 was further examined using Gas Chromatography (GC). The Item 1 extract contained terpenes. It should be noted that terpenes occur naturally in some woods and are also found in turpentine (a miscellaneous product) and some cleaning products. The Item 2 extract contained gasoline. No ignitable liquids were identified in the Item 3 extract. |
| BCBR24 | Item #1: A medium range turpentine based product was detected. Item #2: Gasoline was detected. Item #3 No ignitable liquids were detected. |
| BPK899 | Terpenes, natural by-products of wood, were detected in Item 1. Gasoline was identified in Item 2. No common ignitable liquid was identified in Item 3. Some conditions that could lead to this result are: A. No common ignitable liquid was present in the material analyzed. B. An ignitable liquid was present but below quantities required for a positive identification. C. An uncommon ignitable liquid was present. |
| BTLBZV | Item 1 Sample contains an ignitable liquid known as terpenes, which are naturally occurring in some types of wood. An example of a product containing terpenes is turpentine. Item 2 Sample contains an ignitable liquid in the gasoline class. Item 3 No ignitable liquids were identified. It should be noted that ignitable liquids may evaporate or can be totally consumed during a fire. A negative finding of ignitable liquids does not preclude its presence during a fire. |
| BVR422 | In the "SUMMARY" section of the report: The results of the analysis of Items 001-1 and 001-2 are inconclusive. No ignitable liquid residues were detected in Item 001-3. In the "EXAMINATION AND RESULTS" section of the report: The total ion chromatogram (TIC) for Item 001-1 demonstrated a pattern of terpenes and terpenoid compounds in the n-alkane range of C9 – C15. Terpenes and terpenoid compounds can be found in some ignitable liquid products, including many varieties of turpentine. These compounds are also naturally found in various soft wood species. The cloth material in Item 001-1 is not an anticipated source of these compounds. As such, the pattern of compounds detected in Item 001-1 may indicate the presence of a miscellaneous classification ignitable liquid residue (e.g. turpentine). However, due to the lack of a sufficiently comparable known laboratory standard, the results of the analysis of Item 001-1 are inconclusive. The TIC for Item 001-2 demonstrated a pattern comprised primarily of normal alkanes and aromatic compounds over the n-alkane range of C6 – C14. The specific pattern had some similarities to known gasoline standards; |

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| | <p>however, some unexplainable differences were also noted. The relative abundances of the aromatic compounds were not consistent with any known laboratory gasoline standards and the relative abundance of n-alkanes in the pattern was much greater than that of any known laboratory gasoline standard. The distribution and relative abundances of the n-alkanes in the pattern were similar to those of a medium petroleum distillate. Some examples of products that may include medium petroleum distillates are fuel additives, paint thinners, charcoal starters, mineral spirits, light lubricating oils, shoe polish, and dry cleaning solvents. The overall pattern of compounds in Item 001-2 may indicate the combined presence of gasoline residues and medium petroleum distillate residues. Such a mixture would be classified as a miscellaneous classification ignitable liquid residue. However, due to the lack of a sufficiently comparable known laboratory standard, the results of the analysis of Item 001-2 are inconclusive. No common ignitable liquid residues were detected in Item 001-3.</p> |
| C3L8BC | <p>Results/Opinions/Interpretations of Fire Debris Analysis: Item #1 - The volatile contents were recovered using a 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. Turpentine was detected. Item #2 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. Gasoline was detected. Item #3 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. The item was analyzed as a comparison sample. No ignitable liquid residues were identified.</p> |
| C8BM24 | <p>Item 1 Q1: A medium range (nC9-nC13) miscellaneous ignitable liquid was detected. Item 2 Q2: Gasoline was detected. Item 3 Q3: Analyzed for comparison. Examples of a medium range miscellaneous ignitable liquid include but are not limited to turpentine products, some blended products, and some specialty products. Gasoline includes all types and brands including gasohol.</p> |
| C98AA2 | <p>On analysis, I found Item 1 to bear traces of Others-Miscellaneous Class, subclass Medium and Item 2 to bear traces of Gasoline.</p> |
| C9LPN3 | <p>[No conclusions reported.]</p> |
| CCQ9YG | <p>Gas Chromatograph/Mass Spectrometer analysis detected a medium miscellaneous product in Item 1. Some examples of a miscellaneous product are turpentine products, some blended products, and some specialty products. Gas Chromatograph/Mass Spectrometer analysis detected gasoline and a heavy petroleum distillate in Item 2. Some examples of a heavy petroleum distillate are kerosene, diesel fuel, and some charcoal starters. Gas Chromatograph/Mass Spectrometer analysis did not detect the presence of ignitable liquids in Item 3. A negative result means that the laboratory did not identify ignitable liquids in the submitted sample.</p> |
| CDYCFL | <p>The suspected cloth wick remnant located on the vehicle's back seat (Item 1) contains terpenes, which are found in turpentine products and occur in thinners and cleaning products; these are also found in many essential oils. The suspected cloth wick remnant located on the vehicle's front passenger side floor (Item 2) contains components characteristic of gasoline petroleum product.</p> |
| CEZX3 | <p>1: Analysis revealed the presence of terpenes. Terpenes are naturally occurring compounds in wood and may be found in some ignitable liquids (i.e. turpentine). 2: Analysis revealed the presence of gasoline. 3: No ignitable liquids detected.</p> |
| CKKQHD | <p>Traces of an organic mixture containing terpenes were recovered from item 1, the suspected cloth wick remnant located on the vehicle's back seat. Terpenes are found as major constituents in turpentine products such as some cleaning solvents. Traces of the constituents of gasoline were recovered from item 2, the suspected cloth wick remnant located on the vehicle's front passenger side floor. Nothing of significance was found with respect to the recovery of fire accelerant residues from item 3, the control terrycloth substrate.</p> |
| CM82ZC | <p>Item #1 The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an</p> |

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| | activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. Turpentine was detected. Item #2 The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. Gasoline was detected. Item #3 The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. The item was analyzed as a comparison sample. [sic] |
| CPAZCQ | Items 1-3 were subjected to adsorption-elution extraction followed by gas chromatographic / mass spectrometric (GC/MS) analysis. In Item 1, GC/MS analysis shows the presence of a Medium Miscellaneous Ignitable Liquid. Examples of this class of ignitable liquid could include (but are not limited to): turpentine products, some blended products and some specialty products. In Item 2, GC/MS analysis shows the presence of Gasoline. Examples include all brands and grades of automotive gasoline, including gasohol and E85. In Item 3, GC/MS analysis shows no evidence of ignitable liquids. |
| CWVQ6D | Item 1 was found to contain terpenes. Products containing terpenes include, but are not limited to, turpentine and some household cleaners. Item 2 was found to contain gasoline. Item 3 was used as a control. |
| CXKBJV | No commonly known ignitable liquid could be identified in Item 3. Item 1 contained medium miscellaneous as per ASTM E-14 classification. Item 2 contained gasoline as per ASTM E-14 classification. |
| CZXP HQ | Analysis of Item 1 disclosed the presence of terpenes. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine-based cleaners. Turpentine products are an example of ignitable liquids in the "medium Others-Miscellaneous" class. Pine-based cleaners are generally not considered as ignitable liquids. Analysis of Item 2 disclosed the presence of an ignitable liquid from the gasoline class. This class includes all brands and grades of gasoline, including gasohol. Analysis of Item 3 did not identify the presence of an ignitable liquid. This item is described as a comparison blank. |
| D24HPB | No flammable liquid was detected in item 1 -In item 2 it was found a mixture of gasoline and a medium distillate. The presence of small peaks corresponding to C14, C15 and C16 could indicate that the second component is a medium to heavy distillate. |
| D9M4CM | On analysis, I found that: i. Item 1 (suspected cloth remnant located on the vehicle's back seat) to bear residues of ignitable liquid which falls in the class of Others-Miscellaneous (subclass: light). ii. Item 2 (suspected cloth remnant located on the vehicle's front passenger side floor) to be residue of gasoline. |
| DC42BB | Examination of item #1 revealed the presence of a medium-range miscellaneous product containing terpenes. Miscellaneous products include turpentine products, some blended products and some specialty products. Examination of item #2 revealed the presence of residual gasoline. Examination of item #3 failed to reveal the presence of ignitable liquids. |
| DEATWW | Terpenes were identified in Lab item 1. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine based cleaners. Gasoline was identified in Lab item 2. No ignitable liquids were identified in Lab Item 3. Samples of recovered materials from this case have been preserved with the evidence. |
| DF36NW | Item 001-1, piece of white cloth, contains alpha-Pinene and Camphene, which are found in Miscellaneous/Other Class ignitable liquid residues such as from turpentine products. However, due to the lack of a similar standard in the laboratory's ignitable liquid reference collection, the results are inconclusive. Item 001-2, piece of white cloth, contains a gasoline profile and a medium petroleum distillate profile, which are found in Miscellaneous/Other Class ignitable liquid residues such as mixtures and blends. However, due to the lack of a similar standard in the laboratory's ignitable liquid reference collection, the results are inconclusive. No common ignitable liquid residues were detected |

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| | in the piece of white cloth, Item 001-3 (Comparison). |
| DFKNLV | Terpenes were detected in the extract of Item #1. It should be noted that terpenes occur naturally in some wood, may be found in some ignitable liquids such as turpentine and some wood finish, and in some non-ignitable liquids such as household cleaners. Gasoline was detected in the extract of Item #2. No ignitable liquids were detected in the extract of Item #3. |
| DRG3TZ | An ignitable liquid residue classified as a medium range, miscellaneous product was detected in Item 1. One example of this type of liquid is turpentine (or turpatine). An ignitable liquid residue classified as gasoline was detected in Item 2. |
| DRGKX6 | Item 1 was analyzed by GC/MS and determined to contain a medium others-miscellaneous ASTM class ignitable liquid. Examples of this ASTM class are turpentine products and some blended products. Item 2 was analyzed by GC/MS and determined to contain a gasoline sample in which the concentration of the components has been altered by evaporation. Item 3 was analyzed by GC/MS; however, ignitable liquids could not be detected. |
| DXQTA8 | GC/MS Analysis of specimen Q1 disclosed the presence of a Medium Range Miscellaneous Product. Examples of a Medium Range Miscellaneous Product include, but are not limited to, Turpentine Products, some blended products, and some specialty products. GC/MS Analysis of Specimen Q2 disclosed the presence of Gasoline. |
| DYDC7Y | A miscellaneous product in the medium range was identified in item 1. Examples of miscellaneous products in the medium range include, but are not limited to, turpentine products, some blended products and some speciality products. Gasoline was identified in item 2. No ignitable liquid residues were identified in item 3. |
| E2HH4K | A medium miscellaneous product was detected in item 001. Examples of medium miscellaneous products include but are not limited to turpentine products and some specialty products. Gasoline was detected in item 002. No ignitable liquids were detected in item 003. Activated charcoal strips were used to collect any volatile organic compounds with an absorption/elution technique. The compounds were then analyzed with a gas chromatograph/mass spectrometer. The charcoal strips used are contained in plastic vials and have each been repackaged inside the original item. |
| E4NB9W | An ignitable liquid in the Miscellaneous Class was detected in the plastic bag containing a piece of cloth wick from the vehicle's back seat (Item 1). The components of the detected ignitable liquid indicate this may be a product marketed as a Turpentine or advertised as "pine scented". Gasoline was detected in the plastic bag containing a piece of cloth wick from the vehicle's front passenger side floor (Item 2). No ignitable liquids were detected on the substrate control (Item 3). |
| E6W92Z | Item 1 to bear the residue of other miscellaneous product in medium subclass. Item 2 to bear the residue of Gasoline. |
| E93FX Y | Conclusions - Item 1 was found to contain a volatile mixture of terpenes which can be found in products such as turpentine. Item 2 was found to contain a volatile mixture identified as gasoline. No common ignitable liquids were detected in item 3. |
| EDBYWR | Item 1: Volatile components have been identified. These components are terpenes. Terpenes are found in certain wood types and plant material. They are used in the solvent turpentine. Based on the absence of wood in the sample, the relatively high concentration level and the location where the sample was secured, it is more likely that the terpenes originate from the solvent turpentine. Item 2: Volatile components have been identified which originate from gasoline. At relatively lower concentration level volatile components have been identified which originate from a medium petroleum distillate and volatile components have been identified which give an indication for the presence of a heavy petroleum distillate. The petroleum distillates could be a part of the gasoline composition. |
| EJNK7Y | Results and Conclusions of Examinations: Item A1-1 was found to contain materials consistent with the composition of "MEDIUM MISCELLANEOUS PRODUCTS" as described by ASTM specifications E1618-14. The term "MEDIUM MISCELLANEOUS PRODUCTS" includes products such as turpentine products, some blended products and various specialty products. Item A1-2 was found to contain materials consistent with the composition of "GASOLINE" as described by ASTM specification |

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| | E1618-14. The term "GASOLINE" includes all brands and grades of automotive gasoline including gasohol. Item A1-3 was "Control Sample" used for comparison purposes. |
| ELPK7V | Gasoline was detected in the extract of Item #2. Terpenes were detected in the extract of Item #1. It should be noted that terpenes occur naturally in some wood, can be found in ignitable liquids such as turpentine and some wood finishes and in non-ignitable liquids such as household cleaners. No ignitable liquids were detected in the extract of Item #3. |
| EUZ3BM | [No conclusion reported.] |
| EVXP3Y | Turpentine was detected in Item 1. Gasoline was detected in Item 2. No ignitable liquid residues were identified in Item 3. |
| EW6LEA | Items 1, 2 and 3 were analyzed by gas chromatography/mass spectrometry for the presence of ignitable liquids. Residues of a medium range miscellaneous ignitable liquid were detected in item 1. Examples include turpentine products as well as blended and specialty products. Gasoline residues were detected in item 2. No ignitable liquids were detected in item 3. |
| F2FAEW | Items 1, 2 and 3 were examined using passive headspace adsorption and gas chromatography/mass spectrometry. Item 1 was found to contain a volatile mixture of terpenes which can be found in products such as turpentine. Item 2 was found to contain a volatile mixture identified as gasoline. No common ignitable liquid residues were detected in the comparison sample (Item 3). |
| F2RXMB | Analysis conducted on Item 1 and 2 revealed the presence of miscellaneous and aromatic classes respectively. The miscellaneous class include alpha-pinene and camphene compounds similar to that present in some blended, enamel and turpentine products where as the aromatic class include toluene, ethylbenzene, xylene in the range of C4 - C12 and their chromatographic pattern mimic that of gasoline. |
| F6Y4DJ | Item 1: An ignitable liquid was identified. This liquid was identified as a turpentine type product. Item 2: An ignitable liquid was identified. This liquid was identified as gasoline. Item 3: No ignitable liquid was detected. |
| F84YTF | Item 1 contained residues consistent with turpentine. Item 2 contained residue of gasoline. No ignitable liquids were identified on Item 3. |
| FBFTMQ | By means of physical study and chemical analysis: A flammable/combustible substance was detected in Item 1 within the classification of medium miscellaneous . Examples of this classification includes some Turpentine's products, some fragrances and some specialty products. A flammable/combustible substance was detected in Item 2 within the classification of medium petroleum distillates. Examples of this classification includes some Charcoal Starters. The flammable substance gasoline was detected also in Item 2. No Inflammable or combustible substances were detected in the control Item 3. |
| FCBEDW | Exhibit: 1, Description: Fabric, Results: Terpenes, natural product of wood. Exhibit: 2, Description: Fabric, Results: Gasoline. Exhibit: 3, Description: Fabric, Results: Negative. |
| FJC6W8 | Result of Examination: Item 1 comprised a heatsealed nylon bag containing a section of white cloth. Residues consistent with a turpentine-based product were detected from the item. Item 2 comprised a heatsealed nylon bag containing a section of white cloth. Partially evaporated petrol was detected from the item. Item 3 comprised a heatsealed nylon bag containing a section of white cloth. No ignitable liquid residues were detected from the item. Discussion: 1. An ignitable liquid is any liquid that is capable of fueling a fire; this includes flammable and combustible liquids, or any other material that can be liquefied and burned. 2. Flash point is defined as the minimum temperature to which a liquid must be heated for the vapours emitted to ignite momentarily in the presence of a flame under standardised conditions. 3. A flammable liquid is defined as "any liquid" with a flash point below 38 °C that burns readily; a combustible liquid is defined as "any liquid" with a flash point above 38 °C. Both are capable of forming a flammable vapour/air mixture. 4. Flammable liquids (including petrol) may be used to accelerate the combustion of materials that do not readily burn. 5. Petroleum is a complex mixture of organic liquids called crude oil and natural gas, which occurs naturally in the ground and was formed millions of years ago. 6. Petrol is a flammable liquid, flash point -43 °C, that is refined from the crude oil component of petroleum. It is made up of hundreds of compounds each |

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| | with individual boiling points. The range of these boiling points depends on the molecular weight of each compound; this allows the components to be separated during analysis, resulting in a characteristic chromatogram. Lighter compounds, those with lower molecular weights and boiling points, evaporate more rapidly than the heavier compounds at all temperatures (from room temperature through to the extreme temperatures of fire). An unevaporated petrol sample would therefore show a different chromatogram than a sample that was 90% evaporated (that is, 90% of the weight of the petrol sample has been lost due to evaporation). A sample would be said to contain partially evaporated petrol residues when the ratio of light to heavy components is less than the ratio observed in an unevaporated petrol sample. 7. Puregum turpentine is a flammable liquid, flash point approximately 35°C, and is comprised predominantly of chemical compounds known as terpenes. It is typically used as a paint thinner. 8. The techniques used to detect ignitable liquid residues are very sensitive and are capable of detecting residues not visible to the naked eye. At these levels such residues may exist in the vapour phase within the container or trapped in the matrix of the substrate enclosed by the container. |
| FQC4D4 | Item 1 was analyzed by gas chromatography/mass spectrometry and determined to contain a medium others-miscellaneous ASTM class ignitable liquid. Examples of this ASTM class are turpentine products and some blended products. Item 2 was analyzed by gas chromatography/mass spectrometry and determined to contain a gasoline sample in which the concentration of the components has been altered by evaporation. |
| FTZX8 | Item 1: Turpentine Products class (Monoterpenes) ignitable liquids detected. Item 2: Gasoline and "Medium Petroleum Distillates" class ignitable liquids detected. Item 3: Blank - No ignitable liquids detected. |
| G4J3BG | The analysis performed in our laboratory on item 1 enable the detection of turpentine in this sample. In addition, the analysis performed in our laboratory on item 2 enable the detection of gasoline in this sample. Finally, the analysis performed on item 3 did not show the presence of any ignitable liquid in the sample. |
| G8K7XW | Item 1 was found to contain a medium-range miscellaneous product primarily consisting of terpenes. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine-based cleaners. Item 2 was found to contain gasoline. No ignitable liquids were detected in item 3 which was reported to be a comparison blank. |
| G9AL4Y | Item 1. Terpenes - major peaks found in fragrances, essential oils/flavorings. Item 2. Unidentified petroleum products. |
| GFA4FP | Item 1: Terpenes were identified in Item 1. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine-based cleaners. Item 2: Gasoline was present. Examples include all brands and grades of domestic gasoline. Item 3: No ignitable liquids identified. |
| GH6FLQ | A medium miscellaneous ignitable liquid was detected in item 1. Examples of medium miscellaneous ignitable liquids include turpentine, blended products, or specialty products. An ignitable liquid classified as gasoline was detected in item 2. No ignitable liquid was detected in item 3. |
| GLH9AB | On analysis, I found Item 1 to be Others-Miscellaneous subclass medium while Item 2 to be Gasoline |
| GURQPN | Item 1 was subjected to adsorption-elution extraction followed by gas chromatographic/mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of a medium miscellaneous ignitable liquid. Examples of medium miscellaneous products include but are not limited to turpentine products, some blended products and some specialty products. Item 2 was subjected to adsorption-elution extraction followed by gas chromatographic/mass spectrometric (GC/MS) analysis. GC/MS analysis shows the presence of gasoline. Examples of gasoline products include but are not limited to all brands and grades of automotive gasoline, including gasohol and E85. Item 3 was subjected to adsorption-elution extraction followed by gas chromatographic/mass spectrometric (GC/MS) analysis. GC/MS analysis does not show the presence of an ignitable liquid. |
| GWJRTQ | Instrumental analysis of exhibit #1 revealed Terpenes. Instrumental analysis of exhibit #2 revealed gasoline. No ignitable liquid was detected in exhibit #3. |

TABLE 4

| WebCode | Conclusions |
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| GZJZXZ | Item 1: Terpenes. Terpenes are found in fragrances, essential oils, flavorings, and some specialty solvents. Item 2: Unidentified petroleum product. |
| GZYDLX | Analysis of Item 1 detected the presence of a mixture of medium to heavy-range terpene compounds. These compounds can be found in turpentine, certain paint thinners or removers, certain varnish products, etc. Analysis of Item 2 detected the presence of gasoline. Analysis of Item 3 failed to detect the presence of an ignitable liquid. |
| H3KRW7 | Item 1 contained a piece of white cloth (approximately 5cm x 5cm) which was found to contain components characteristic of turpentine. Item 2 contained a piece of white cloth (approximately 5cm x 5cm). Petrol was detected in this item. Item 2[sic] contained a piece of white cloth (approximately 5cm x 5cm). No accelerant was detected in this item. |
| H73GCW | Item 1 was found to contain a medium-range miscellaneous product, specifically, a turpentine product. Examples of turpentine products include, but are not limited to, gum turpentine, some varnishes, and some liquid polishes. Item 2 was found to contain gasoline. Item 3 was analyzed for comparison purposes only. |
| HDMJBL | A vapour similar to natural turpentine was detected with item 1. A vapour similar to gasoline (petrol) was detected with item 2, although in our reference collection there is a paint thinners product with similarities to gasoline. Nothing of significance was detected with item 3. |
| HEVT4J | 1) A mixture consisting of compounds likely to be terpenes and terpenoids was detected in the exhibit marked "Item 1". 2) A mixture consisting of compounds likely to be C6 to C13 straight chain and branched alkanes and C1 to C4 alkylbenzenes was detected in the exhibit marked "Item 2". 3) No ignitable liquid residue was detected in the exhibit marked "Item 3". |
| HJQMYY | Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Lab Item #1: Terpenes were identified. Terpenes are used in, but not limited to, some turpentine solvents, some pine-based cleaners, and are common to softwoods. Lab Item #2: Gasoline was identified. Lab Item #3 (Comparison Sample for Lab Items #1 and #2): No ignitable liquids were identified. The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. |
| HJRDDU | Item 1 contained a medium-range miscellaneous product consisting primarily of terpenes. Examples of this type of product include some turpentines and some gum spirits. Item 2 contained gasoline. Item 3 was analyzed for comparative purposes only. |
| HK48VF | It was determined utilizing activated charcoal strip extraction and gas chromatography/mass spectrometry analysis that item 1 exhibited the presence of a medium range miscellaneous class ignitable liquid. An example of the medium range miscellaneous class of ignitable liquid includes but is not limited to turpentine. It was determined utilizing activated charcoal strip extraction and gas chromatography/mass spectrometry analysis that item 2 exhibited the presence of gasoline. |
| HQTRWA | Exhibit 1 contained a mixture of terpenes. It should be noted that while terpenes can be found in ignitable liquid products such as turpentine and other terpene based solvents, it can also be found as a natural component of some plants, particularly soft woods, as well as, flavorants and odorants for various commercial products. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were detected in Exhibit 3. |
| HVFTMM | [No conclusion reported.] |
| HVLUZA | Terpenes were identified in Exhibit 1. Terpenes consistent with those detected are essential components of turpentine and are naturally occurring in some types of wood. Terpenes are ignitable liquids. Gasoline was identified in Exhibit 2. Gasoline is an ignitable liquid. No ignitable liquids were identified in Exhibit 3. |
| HWER7V | Item 1 was detected others-miscellaneous(Medium to heavy). Item 2 was detected gasoline. No ignitable liquids were detected in the control bag Item 3. |
| J34HEC | Item #1 contains a miscellaneous product. Some examples of a light miscellaneous product are single component products, some Blended Products and some Enamel reducers, and Some examples |

TABLE 4

| WebCode | Conclusions |
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| | of a Medium miscellaneous product are turpentine products, some blended products and various specialty Item #2 contains a medium petroleum distillate product and a gasoline product. Some examples of a medium petroleum distillate product are some charcoal starters, some paint thinners and some dry cleaning solvents. Item #3 is Negative. |
| J498EZ | The above items were examined in accordance with standard [Laboratory] methods and procedures based upon ASTM International guidelines. The samples were extracted using passive headspace sampling and analyzed via gas chromatography – mass spectrometry. Item 1: An ignitable liquid residue was detected – turpentine. Item 2: An ignitable liquid residue was detected – gasoline. Gasoline can originate from any brand or grade of gasoline or gasohol. Item 3: No ignitable liquid residues were detected. Item 3 was submitted as a comparison sample for Items 1 and 2. |
| J4TXHT | A miscellaneous product in the medium range was identified in item 1. Examples of miscellaneous products in the medium range include, but are not limited to, turpentine products, some blended products and some specialty products. Gasoline was identified in item 2. No ignitable liquid residues were identified in item 3. |
| JC7AQ6 | Item 1: A complex mixture of volatile substances, including terpene hydrocarbons as the principal constituents, was detected in the contents of this item. No product of similar composition could be identified in an extensive search of published data. Terpene hydrocarbons are the primary constituents of many types of plants and flowers and are common constituents of essential oils. Essential oils are used in perfumes, cosmetics products, for flavouring foods and beverages, and as solvents for some protective coatings, polishes and waxes. Item 2: A mixture of volatile substances, including medium-volatility aromatic hydrocarbons and a heavy petroleum distillate in the range C9 - C14, was detected in the contents of this item. The chemical composition of this mixture did not correspond to any common ignitable liquid product. However, examples of products that may contain substances of this type include some cleaning products and solvents for adhesives and surface coatings. Item 3: The contents of this item were examined for the presence of ignitable liquid residues, and none were found. |
| JFPWFQ | Item 1. A medium to heavy miscellaneous ignitable liquid product containing terpenes was identified in the heat-sealed fire debris bag containing a piece of white cloth. Examples of this type of product include turpentine products, some specialty solvents, and some pine based cleaners. Item 2. Partially evaporated gasoline was identified in the heat-sealed fire debris bag containing a piece of white cloth. Item 3. No identifiable liquids were identified in the heat-sealed fire debris bag containing a piece of white cloth. (Comparison sample) |
| JL8G96 | Terpenes, the components of turpentine, are present in Item #1. Turpentine is an ignitable liquid classified as a medium-range miscellaneous class product. Examples of turpentine include gumspirits[sic], gum turpentine, spirits of turpentine, and wood turpentine. Gasoline residue is present in Item #2. Examples of gasoline include all brands of gasoline and gasohol. No identifiable ignitable liquid residue is present in Item #3 (comparison). |
| JNC8BD | 1) Medium-range terpenes were detected in Exhibit 1. Terpenes are natural constituents of wood, and are also present in numerous products including, but not limited to, commercial turpentine, varnishes, cleaners, and specialty solvents. Terpenes are ignitable liquids and could act as a fire accelerant. 2) Gasoline was detected in Exhibit 2. Gasoline is an ignitable liquid and could act as a fire accelerant. 3) No ignitable liquid, or its residue, was detected in Exhibit 3. |
| JZ8BMK | Residues of a turpentine product were identified on item 1. Turpentine products are classified as ignitable liquids. Residues of gasoline were identified on item 2. No ignitable liquid residues were identified on Item 3. |
| K64C9Y | No ignitable liquids were identified on the white fabric cutting in Item 1 (from back seat). However, this sample was found to contain numerous terpene compounds, which could constitute a commercially available product and are common to some essential oils and turpentines. The wide range and relative ratios of these compounds precluded a positive identification when comparisons were made with in-house and online library samples of known turpentines. An ignitable liquid residue would only be identified if a quantity of known liquid were also submitted for analysis and direct comparison. Item 2 (from front passenger side floor) was found to contain gasoline. No ignitable |

TABLE 4

| WebCode | Conclusions |
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| | liquids were identified in Item 3 (comparison). |
| K9G3N2 | <p>RESULTS An ignitable liquid, identified as a terpene containing product, was isolated on sample 1. Some examples of consumer products that may contain such a turpentine-type ignitable liquid are, but are not limited to, turpentine, turpentine gum spirits, steam distilled turpentine, essential oils and some fine art materials. Terpenes are not typically present in a vehicle and are therefore considered foreign to the environment; however, further investigation may reveal a legitimate reason for the presence of terpenes in the sample. Weathered gasoline was isolated on sample 2. As the sample was collected on the floor of a passenger vehicle, further investigation may reveal a legitimate reason for the presence of gasoline in the sample, such as a secondary container of gasoline was in the vehicle at the time of the fire. However, research has shown that simple transfer from the tracking of gasoline on shoes (1,2) is insufficient to generate the response observed on sample 2. Volatile chemical residues were isolated on sample 3. The volatile chemical residues isolated on sample 3 does not compare favorably to current laboratory standards of ignitable liquids. CONCLUSIONS Based upon the samples that were submitted and analyzed as described, it is the opinion of the laboratory that ignitable liquids were isolated on samples 1 and 2. The foreign ignitable liquid isolated on sample 1 has been identified as a turpentine-type product, however, further investigation may reveal a legitimate reason for the presence of terpenes in the sample. The foreign ignitable liquid isolated on sample 2 has been identified as weathered gasoline. The term "weathered" implies that the original petroleum product, in this case gasoline, was exposed to heat and/or time, causing the more volatile components to be consumed. No foreign ignitable liquids were isolated on sample 3.</p> |
| KDDJA9 | <p>Item 1 (exhibit 1) A miscellaneous ignitable liquid was detected This liquid contained terpenes usually found in turpentine[sic]. Item 2 (exhibit 2) Gasoline was detected. Item 3 (exhibit 3) No ignitable liquid was detected</p> |
| KLZQER | <p>There is in all probability identified ignitable liquid that probably originates from turpentine or similar products in item 1. There is in all probability identified ignitable liquid that probably originates from a mixture of gasoline and heavy petroleum distillate.</p> |
| KNUWBQ | <p>Item 1 was sampled and tested utilizing gas chromatography-mass spectrometry and it was determined to contain a medium other-miscellaneous product(s). Examples of other-miscellaneous products include turpentine, some blended products and some specialty products. Item 2 was sampled and tested utilizing gas chromatography-mass spectrometry and it was determined to contain gasoline and a medium petroleum distillate(s). Examples of medium petroleum distillate[sic] products include some charcoal starters, some paint thinners, and some dry cleaning solvents.</p> |
| KP4F6E | <p>The unburnt sections of cloth from the vehicle's back seat (item 1), front passenger side floor (item 2), and cloth substrate comparison blank (item 3) were sampled for the presence of ignitable liquid residues using passive headspace concentration with activated charcoal. These sample extracts were analyzed by gas chromatography / mass spectrometry (GC/MS) for the presence of ignitable liquid residues. Ignitable liquid residues classified under the ASTM classification scheme as "Others-Miscellaneous" (medium range) were detected in the sample extract from item 1. Examples of products in this range include turpentine products, some blended products, and some specialty products. Ignitable liquid residues classified under the ASTM classification scheme as "Gasoline" were detected in the sample extract from item 2. Ignitable liquid residues were not detected in the sample extract from the cloth comparison blank (item 3).</p> |
| KRCLNV | <p>Evidence addressed in this report was received into the laboratory on August 5, 2015. Analysis for ignitable liquid residues using Diffusive Flammable Liquid Extraction trapping followed by Gas Chromatography/Mass Selective Detection: Item #1: Terpenes. Item #2: Gasoline. Item #3: No Ignitable Liquid Residues identified. Further analysis for ignitable liquid residues by evaporating the extract (CS2) liquid to a gaseous phase followed by Gas Chromatography/Mass Selective Detection: Item #2: Gasoline and Medium Petroleum Distillate. Examples of medium petroleum distillates are some brands of lamp oil/torch fuels, engine fuel octane boosters, engine fuel rail-injector cleaners, paint thinners, dry cleaning solvents and some brands of charcoal starter fluid. *Unable to determine if Item #2 is a mixture of ignitable liquids or a single source miscellaneous product; due to the lack of Comparison Gasoline sample.</p> |

TABLE 4

| WebCode | Conclusions |
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| KRX22C | Item 1.1 contained terpenes. Terpenes are commonly found in turpentine solvents, pine-based cleaners, and are naturally occurring in some softwoods. Item 1.2 contained gasoline. No ignitable liquids were detected in item 1.3. |
| KZWN9 | Item 1, Wick remnant from back seat, tested positive for ignitable liquid residues consistent with turpentine products. Item 2, Wick from passenger side floor, tested positive for ignitable liquid residues consistent with a mixture of gasoline and kerosene. Item 3, Comparison blank, tested negative for ignitable liquid residues and was not required for comparative purposes. |
| L7QL6Y | An ignitable liquid classified as medium miscellaneous product was detected in item 1. Examples of medium miscellaneous products include, but is not limited to, some turpentine products. An ignitable liquid classified as gasoline was detected in item 2. No recognizable ignitable liquid was detected in item 3. |
| LDPKMU | Ex1: Terpenes found. Terpenes are found in fragrances, essential oils, and flavorings. Ex2: Unidentified Petroleum Product. Ex3: Comparison[sic] sample used in conjunction with Exhibits 1 and 2. |
| LK6JUE | Item #1: An ignitable liquid residue consistent with a medium miscellaneous product was identified. Terpenes[sic] were identified which are constituents of turpentine or other specialty products. Item #2: Gasoline, an ignitable liquid, was identified. Item #3: This item is listed as a control sample. This control sample was analyzed and the results were used in evaluating possible matrix influences on other submitted sample(s). |
| LUYJFY | No ignitable liquids were identified in Item 1. However, the pattern consists almost exclusively of a variety of terpene compounds from C8-C15, which may be the result of a commercially available product, such as a turpentine or some other essential oil based product. However, no similar ignitable liquid reference sample, turpentine or other, could be located within our own in-house ignitable liquid reference library or other external reference sources. A mixture of gasoline and a medium petroleum distillate was identified in Item 2. No ignitable liquids were identified in Item 3. |
| LVPN97 | Exhibit 1 contained terpenes which are ignitable liquids. Terpenes are essential components of turpentine and are naturally occurring in some types of wood. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were detected in Exhibit 3. |
| LVU8W9 | Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1A) reveals the presence of terpenes. Terpenes can originate from soft woods and are a major constituent of turpentine products. Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1B) reveals the presence of gasoline. Analysis by Gas Chromatography/Mass Spectrometry of the white cloth (Item 1C) fails to reveal the presence of any ignitable liquids, including methanol, ethanol, isopropanol and acetone. |
| M6B9Q9 | 1) A miscellaneous product consisting of terpene compounds was identified in Exhibit 1 (suspected cloth wick remnant located on the vehicle's back seat). Ignitable liquids belonging to this classification are commercially available as turpentine products, some blended products, and some specialty products. 2) Gasoline was identified in Exhibit 2 (suspected cloth wick remnant located on the vehicle's front passenger side floor). 3) No ignitable liquid residue classifications were identified in Exhibit 3 (terrycloth substrate intended as a comparison blank in a nylon evidence bag). |
| M78P47 | Item 1 (Exhibit 1) A miscellaneous product was detected. Examples of which include turpentine, some single component products, some blended products and some enamel reducers. Item 2 (Exhibit 2) Gasoline was detected. Item 3 (Exhibit 3) No ignitable liquid was detected. Caprolactam was detected. |
| M8GUGU | Items #1 and #3 were analyzed and no ignitable liquid residue was detected. Item #2 was analyzed for the presence of ignitable liquids and found to contain gasoline and a medium petroleum distillate. Products in this range may include mineral spirits, paint thinners and some charcoal lighters. |
| MCBNGG | A miscellaneous product in the medium range was identified in Item #1, examples of which include turpentine products, some blended products, and some specialty products. Gasoline was identified in Item #2. There were no ignitable liquids identified in Item #3. |

TABLE 4

| WebCode | Conclusions |
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| MCFMN4 | ITEM1 : Highlighted terpenes are natural compounds that are found in some essential oils, wood species especially conifers which is extracted turpentine. ITEM2 : Contains gasoline and medium petroleum distillates which can be found in some charcoal starters, some paint thinners, some cleaning solvents. ITEM3 : No accelerant product. This sample was given as analytical blank. |
| MDRPL4 | Terpenes were identified in the contents of Item 1. Terpenes consistent with those detected are essential components of turpentine and are naturally occurring in some types of wood. Terpenes are ignitable liquids. Gasoline, which is an ignitable liquid, was identified in Item 2. No ignitable liquid was identified in the comparison sample of Item 3. |
| MM8QQC | A miscellaneous ignitable liquid, consistent with known terpenoids, ranging from C8 - C13, was detected in the sample. Commercially available products containing these components include, but are not limited to, coniferous wood products, turpentines and other specialty application products. Gasoline was detected in Item 2. No ignitable liquids were detected in Item 3. |
| MTLCRW | Items 1-3 were analyzed for the presence of ignitable liquids using Gas Chromatography Mass Spectrometry (GC/MS). A miscellaneous product in the medium range (turpentine product) was detected in item 1. Two products were detected in item 2: gasoline and a petroleum distillate in the heavy range (HPD). An example of an HPD is kerosene. No ignitable liquids were detected in item 3. |
| MUAF82 | RESULTS: A medium miscellaneous product was identified in Item 1. Gasoline was identified in Item 2. No volatile ignitable liquid was identified in Item 3. CONCLUSION: Volatile ignitable liquids were identified in Items 1 and 2. Volatile ignitable liquids were not identified in Item 3. |
| MZFLTE | Terpenes was detected in Item 1. Terpenes are a naturally occurring substance in some types of wood and are present in turpentine. Gasoline was detected in Item 2. No ignitable liquid was detected in Item 3. |
| N677NG | [No conclusion reported.] |
| N8CJEV | Item 1 : Turpentine. Item 2 : Gasoline (partially evaporated). |
| NAME8F | Item 1: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC-MS). A medium other-miscellaneous type product was identified. Examples of this type of ignitable liquid include: turpentine products, some blended products and various specialty products. Item 2: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC-MS). Gasoline was identified in the sample. Item 3: The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC-MS). Ignitable liquids were not identified in the sample. |
| NBE6YR | Item #1 Ignitable liquid residue containing a miscellaneous product. Footnote: Terpenes were identified in Item #1 which are common to softwoods, turpentine solvents, and pine based cleaners. Item #2 Ignitable liquid residue containing gasoline. |
| NDKVGN | Terpenes were identified in item 1. Products that contain terpenes include, but are not limited to, turpentine solvents and pine-based cleaners; terpenes also occur as natural components of some woods. Gasoline was identified in item 2. No ignitable liquids were identified in item 3, the comparison blank. |
| NQR4Y7 | Two different ignitable liquids residues were recovered : Terpenes in Item 1. Terpenes can come from commercial products that are ignitable liquids, such as turpentine solvents or cleaners. Terpenes are also a natural component found in wood materials. Gasoline in Item 2. |
| NWEMB9 | [No conclusion reported.] |
| P6NKLJ | Item 1 - a medium miscellaneous product was identified. Medium miscellaneous products are ignitable liquids and include, but are not limited to, turpentine products. Item 2 - gasoline was identified. Item 3 - No ignitable liquid was identified. |
| PBDXLL | 1) A medium-heavy miscellaneous terpene containing product was identified in the heat-sealed fire debris bag containing a square of white cloth. Examples of this class of products are turpentines, specialty solvents and pine based cleaners. 2) Partially evaporated gasoline was identified in the heat-sealed fire debris bag containing a square of white cloth. 3) No ignitable liquids were identified. |

TABLE 4

| WebCode | Conclusions |
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| | (control) |
| PBQQY2 | Analysis of item 1 revealed the presence of a miscellaneous product examples of wh wh wh which include some blended products, some enamel reducers, turpentine products, an a an and some specialty products. The product identified is further classified as a me me medium range product. Analysis of item 2 revealed the presence of a petroleum product characteristic of gasoline. [sic] |
| PDEAWR | Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Lab Item #1: Terpenes were identified. Terpenes are found in, but not limited to, some turpentine solvents and some pine-based cleaners. Lab Item #2: Gasoline was identified. Lab Item #3: comparison sample) No ignitable liquids were identified. |
| PEFXN4 | Item #1 contains a medium miscellaneous product. Some examples of a medium miscellaneous product are turpentine products and some blended/specialty products. Item #2 contains gasoline. No ignitable liquids were detected in Item #3. A negative result means that the laboratory did not identify ignitable liquids in the submitted sample. |
| PEP6MQ | The evidence was received on August 11, 2015. The above items were extracted using passive adsorption/elution and analyzed using Gas Chromatograph/Flame Ionization Detector (GC/FID) and Gas Chromatograph/Mass Spectrometer (GC/MS). Item 1: A Medium Miscellaneous Product residue was identified. Examples of this include but are not limited to turpentine products, some blended products, and some specialty products. Item 2: Gasoline was identified. Item 3: This item is listed as a control sample. This control sample was analyzed and the results were used in evaluating possible matrix influences on other submitted sample(s). |
| PKZ2QZ | Item 1 was found to contain terpenes. Terpenes can be found in commercial turpentine products, some household products, and as a natural product of coniferous wood (such as pine). Item 2 was found to contain gasoline. Item 3 was used as a control. |
| PQ7ULV | GC/MS analysis of Specimen Q1 disclosed the presence of a Medium Range Miscellaneous Product. Examples of Medium Range Miscellaneous Products include, but are not limited to, some blended products, some specialty products, and turpentine products. GC/MS analysis of Specimen Q2 disclosed the presence of Gasoline. |
| PQLZYZ | Description of Evidence: Item #1 - Suspected cloth wick remnant located on the vehicle's back seat. Item #2 - Suspected cloth wick remnant located on the vehicle's front passenger side floor. Item #3 - Terrycloth substrate intended as a comparison blank in a nylon evidence bag. Results/Opinions/Interpretations of Fire Debris Analysis: Item #1 - The volatile contents were recovered using a 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. Turpentine was detected. Item #2 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. Gasoline was detected. Item #3 - The volatile contents were recovered using a heated headspace recovery method and analyzed by gas chromatography, and were extracted by passive headspace adsorption using an activated charcoal strip recovery method and analyzed by gas chromatography/mass spectrometry. The item was analyzed as a comparison sample. |
| PTCCLC | Item 1. The submitted sample was analyzed using passive headspace techniques and gas chromatography/mass spectrometry (GC/MS). A medium-other miscellaneous type product was identified. Examples of this type ignitable liquids include: turpentine products, some blended products and various specialty products. Item 2. The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC/MS). Gasoline was identified in the sample. Item 3. The submitted sample was analyzed using passive headspace technique and gas chromatography/mass spectrometry (GC/MS). No ignitable liquids were identified. Date of submission into the laboratory: 8/05/15. |
| PTV248 | Exhibit 1 - A Turpentine-like product was found. Exhibit 2 - Unidentified petroleum product. Exhibit 3 - Used for comparison to Exhibits 1 and 2. |

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| PU8XDH | <p>The volatile contents of Items 1, 2, and 3 were extracted using a passive carbon adsorption/elution technique and analyzed by gas chromatography-mass spectrometry (GC-MS). Gasoline was identified in Item 2 (Identification). Turpentine products were identified in Item 1 (Identification). Possible sources of terpenes include but are not limited to wood, wood products, turpentine, some cleaning products, and some solvents. There were no ignitable liquid residues identified in Item 3 (Not Identified). Explanation of Terms: The following descriptions are meant to provide context to the types of opinions reached in fire debris examinations. Identification: The sample contained an ignitable liquid or residues of an ignitable liquid. Not identified: No definitive conclusion could be reached regarding the presence, the absence, or the identification of an ignitable liquid in the sample. Possible factors may include one or more of the following: Compounds were present that are typically observed from the substrate and/or pyrolysis, but also have the potential to originate from ignitable liquids. Compounds were present in the sample that impeded data interpretation.</p> |
| PYZWPT | <p>Analysis of Item 1 revealed the presence of terpenes, which are present in turpentine and occur naturally in some wood products. Analysis of Item 2 revealed the presence of a mixture of an evaporated gasoline range product and a medium petroleum distillate. Products in this range include, but are not limited to any mixture of the following products: all brands and grades of automotive fuels including gasohol, mineral spirits, some paint thinners, some charcoal starters, "dry cleaning" solvents, some torch fuels, some solvents for insecticides and polishes, and some lamp oils. Analysis of Item 3 did not reveal the presence of any ignitable liquid residue. This result does not eliminate the possibility that an ignitable liquid was used.</p> |
| Q42P4F | <p>GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #1 - CTS-536-Item 1 revealed the presence of compounds having retention times and selected ion profiles characteristic of terpenes, classified as a medium miscellaneous product. Observable levels of terpenes are found in soft wood substrates such as pine, some soils and as components of turpentine. GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #2 - CTS-536-Item 2 revealed the presence of compounds having retention times and selected ion profiles characteristic of components of an evaporated gasoline. GC/MS (gas chromatography/mass spectrometry) analysis of concentrated headspace vapors from item #3 - CTS-536-Item 3 revealed the presence of compounds having retention times and selected ion profiles characteristic of matrix components and/or pyrolysis products.</p> |
| Q7CKTT | <p>Item 1 was analyzed by gas chromatography/mass spectrometry and determined to contain a medium others-miscellaneous ASTM class ignitable liquid. Examples of this ASTM class are turpentine products. Item 2 was analyzed by gas chromatography/mass spectrometry and determined to contain a gasoline sample in which the concentration of the components has been altered by evaporation.</p> |
| Q93F3G | <p>Item 1: Terpenes were found. Terpenes are found in turpentines, as well as naturally occurring in some types of wood. Item 2: Unidentified petroleum product. Item 3: No ignitable liquid were found. Used in conjunction with Items 1 and 2.</p> |
| QHMTVK | <p>Item 2 contains gasoline. Test results for item 1 are consistent[sic] with the presence of thermal degradation (pyrolysis) products from a variety of synthetic materials and with wood and wood oils. No ignitable petroleum-refined liquid residues were identified in item 1.</p> |
| QKQQ4R | <p>Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration / Liquid Sampling): Lab Item #1: Terpenes were identified. Terpenes are used in some turpentine solvents and some pine-based cleaners, but are also common to softwoods. Lab Item #2: Gasoline was identified. Lab Item #3: No ignitable liquids were identified. (Comparison Sample) The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues.</p> |
| QRUVBW | <p>Item 1 was found to contain medium miscellaneous product class ignitable liquid residues. Examples of medium miscellaneous products include some formulations of the following: blended products, enamel reducers, turpentine products and specialty products (solvents). Item 2 was found to contain petrol residues. Petrol is an ignitable liquid.</p> |
| QVA3GQ | <p>In the item 1 this laboratory has identified several types of terpenes such as a and B pinene, verbenol,</p> |

TABLE 4

| WebCode | Conclusions |
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| | <p>verbenene, camphene, limonene, carveol,...Some of these terpenes are produced by catalytic oxidation of limonene and pinene. According to ASTM classification this laboratory has classified[<i>sic</i>] the item 1 as a miscellaneous product (turpentine product). In the item 2 this laboratory has identified a gaussian distribution of n-alkanes, being present aromatic compounds. According to ASTM classification this laboratory has classified[<i>sic</i>] the item 2 as a medium to heavy petroleum distillate product.</p> |
| QZNKTF | [No conclusion reported.] |
| R2F9HE | Item 1 - Turpentine-based product. Item 2 - Unidentified petroleum product. |
| REPNMY | Terpenes were identified in Exhibit 1. Terpenes consistent with those detected are essential components of turpentine and are naturally occurring in some types of wood. Terpenes are ignitable liquids. Gasoline was identified in Exhibit 2. Gasoline is an ignitable liquid. No ignitable liquids were identified in Exhibit 3. |
| RLN9PU | The above items were examined in accordance with standard [Laboratory] methods and procedures based upon ASTM International guidelines. The samples were extracted using passive headspace sampling and analyzed via gas chromatography-mass spectrometry. Item 1: An ignitable liquid residue was detected- turpentine. Item 2: An ignitable liquid residue was detected- gasoline. Gasoline can originate from any brand or grade of gasoline or gasohol. Item 3: No ignitable liquid residues were detected. Item 3 was submitted as a comparison for Items 1 and 2. |
| RN3ZLN | A miscellaneous flammable substance identified within Item 1 (suspected cloth wick remnant from vehicles back seat). Examples of miscellaneous flammable substances include turpentine products, some blended products and various specialty products. Gasoline was identified within Item 2 (suspected cloth wick remnant from front passenger side floor). |
| RPJ6CZ | Exhibit 1 contained terpenes, which are ignitable liquids. Terpenes are components of turpentine and are naturally occurring in some types of wood. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were identified in Exhibit 3. |
| RPMPZ3 | Analysis by Gas Chromatography/Mass Spectrometry of the cloth material (Item 1) reveals the presence of a medium range miscellaneous class product. Examples include some turpentine products, some blended products and some specialty products. Terpenes can originate from soft woods and are a major constituent of turpentine products. Analysis by Gas Chromatography/Mass Spectrometry of the cloth material (Item 2) reveals the presence of gasoline. Analysis by Gas Chromatography/Mass Spectrometry of the cloth material (Item 3) fails to reveal the presence of any ignitable liquids including methanol, ethanol, isopropanol and acetone. |
| RV9RYT | Item 1 was analyzed by GC/MS and determined to contain a medium others-miscellaneous ASTM class ignitable liquid. Examples of this ASTM class are turpentine products and some blended products. Item 2 was analyzed by GC/MS and determined to contain a gasoline sample in which the concentration of the components has been altered by evaporation. Item 3 was analyzed by GC/MS; however ignitable liquids could not be detected. |
| T4GGEC | Analysis of the samples gave the following results: Sample #: Item 1, Analysis Results: Analysis indicates the presence of terpenes. Terpenes are a natural component of softwoods and are also found in turpentine solvents and pine-based cleaners. Sample #: Item 2, Analysis Results: Analysis indicates the presence of gasoline. Sample #: Item 3, Analysis Results: No ignitable liquids were detected. |
| T4ML32 | Analysis of Item 1 disclosed the presence of terpenes. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine-based cleaners. Turpentine products are an example of ignitable liquids in the "medium others-miscellaneous" class. Pine-based cleaners are generally not considered as ignitable liquids. Other examples of the "medium others-miscellaneous" class include some blended products and some specialty products. Analysis of item 2 disclosed the presence of an ignitable liquid from the gasoline class. This class includes all brands and grades of gasoline, including gasohol. Analysis conducted on Item 3 did not identify the presence of an ignitable liquid. This does not preclude the possibility that an ignitable liquid was present at an earlier time. Items 1.1, 2.1, 3.1 and BL1 have been retained in a packet labeled "Packet FDB1". This packet is |

TABLE 4

| WebCode | Conclusions |
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| | being returned to the submitting agency. |
| T9QJG8 | The cloth wick remnant submitted as Item 1 contains residue of an ignitable liquid, that is composed mainly of organic compounds, which are named as terpenes. Ignitable liquids, that are mainly composed of terpenes, are for example some essential oils, like turpentine, and their products. These ignitable liquids are used for example as solvents, thinners and cleaning products. The cloth wick remnant submitted as Item 2 contains residue of an ignitable liquid classified as gasoline. |
| T9RMYP | Analysis of Item 1 revealed the presence of terpenes, which are present in turpentine and occur naturally in some wood products. Analysis of Item 2 revealed the presence of a mixture of an evaporated gasoline range product and a medium petroleum distillate. Products in this range include, but are not limited to any mixture of the following products: all brands and grades of automotive fuel including gasohol, mineral spirits, some paint thinners, some charcoal starters, "dry cleaning" solvents, some torch fuels, some solvents for insecticides and polishes, and some lamp oils. Analysis of Item 3 did not reveal the presence of any ignitable liquid residue. |
| TA4DYT | (i) " ITEM 1" WAS SUBJECTED TO HEADSPACE TECHNIQUE FOLLOWED BY GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC (GCMS) ANALYSIS SHOWS THE PRESENCE OF AN IGNITABLE LIQUID RESIDUE IN THE MISCELLANEOUS CLASS AND MEDIUM SUBCLASS. (ii) " ITEM 2" WAS SUBJECTED TO HEADSPACE TECHNIQUE FOLLOWED BY GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC (GCMS) ANALYSIS SHOWS THE PRESENCE OF AN IGNITABLE LIQUID RESIDUE IN THE GASOLINE CLASS. |
| TBGTGZ | Exhibit 1 contained terpenes, which are essential components of turpentine and are naturally occurring in some types of wood. Exhibit 2 contained gasoline, which is an ignitable liquid. No ignitable liquids were identified in Exhibit 3. |
| TCAQML | Sample #1 - Analysis identified the presence of turpentine. Sample #2 - Analysis identified the presence of gasoline. |
| TK2CLT | Item 1: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Medium (C8-C13) Miscellaneous Product. Examples of a Medium (C8-C13) Miscellaneous Product include turpentine products, some blended products, and some specialty products. Item 2: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: Gasoline. Item 3: Passive Headspace Concentration/Gas Chromatography-Mass Spectrometry disclosed the following: No ignitable liquids/ignitable liquid residues identified. |
| TMC8GX | A miscellaneous product was identified in Item 1-1. Some examples of miscellaneous products would include some brands of turpentine, automotive cleaners, and specialty solvents. Gasoline was identified in Item 1-2. No ignitable liquids were detected in Item 1-3. |
| TPGNMF | Oil of Turpentine vapour (natural product extracted from pine/fir trees)was detected on item 1. Petrol/Gasoline vapour was detected on item 2. No flammable liquid residues were detected on item 3 |
| TUP8MU | Item #1 to Item #3 were found to be a cloth measuring approximately 5 centimetres (cm) by 5 cm. Item #1 was examined for the presence of ignitable liquid residues and a mixture of compounds likely to be pinenes and carene was detected. Item #2 was examined for the presence of ignitable liquid residues and gasoline was detected. Item #3 was examined for the presence of ignitable liquid residues but none was detected. |
| TV3U69 | Item: 1, Results: Terpenes, Package: Nylon bag placed inside one-quart metal can from laboratory supplies, Description: Cloth wick remnant, Origin: Vehicle back seat. Item: 2, Results: Gasoline, Package: Nylon bag placed inside one-quart metal can from laboratory supplies, Description: Cloth wick remnant, Origin: Vehicle front passenger floorboard. Item: 3, Results: Negative, Package: Nylon bag placed inside one-quart metal can from laboratory supplies, Description: Terrycloth substrate, Origin: Exemplar. Key to Results and Conclusions: Ignitable liquids were detected in one or more items. GASOLINE: A gasoline was chromatographically detected. Examples of a gasoline include all grades and brands of automobile gasoline, including gasohol and E85. TERPENES: Terpenes were chromatographically detected. Examples of terpenes include turpentine, some specialty solvents, cleaning products, and fragrances. NEGATIVE (EXEMPLAR): No common commercially available |

TABLE 4

| WebCode | Conclusions |
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| | ignitable liquids were chromatographically detected. |
| TVJTEY | We detect gasoline with traces of fueldiesel[sic] and turpentine.Both substances are flammable liquids |
| TXUJY2 | Item #1 - Ignitable liquid identified. Examples are turpentine products, some blended products, some specialty products. Item #2 - Gasoline identified. |
| TY6N8J | Item 1 was found to contain terpenes. Terpenes are a natural component in some softwoods but are also found in turpentine solvents and pine-based cleaning products. Item 2 was found to contain gasoline. Item 3 was analyzed for comparison purposes. |
| TYNEBC | Terpenes were detected in item 1. Gasoline was detected in item 2. No ignitable liquids were detected in item 3. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine-based cleaners. |
| UCA24B | A miscellaneous product in the medium range was identified in Item #1. Examples of this include turpentine products, some blended products, and some specialty products. Gasoline was identified in Item #2. There were no ignitable liquids identified in Item #3. |
| UD7HG8 | Item 1) The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC-MS). A medium other-miscellaneous type product was identified. Examples of this type ignitable liquid include: turpentine products, some blended products and various specialty products. Item 2) The submitted sample was analyzed using a passive headspace technique and gas chromatography/mass spectrometry (GC-MS). Gasoline was identified in the sample. Item 3) The submitted sample was analyzed using a passive headspace technique and gas chromatography (GC-MS). Ignitable liquids were not identified in the sample. |
| UH9KAM | Based on analysis, Item 1 was found to bear traces of others miscellaneous flammable substances (subclass medium), but could not determine the type of substances. For Item 2, no flammable substances was detected. |
| ULDEZ6 | The volatile contents of Items 1, 2, and 3 were extracted using a passive carbon adsorption/elution technique and analyzed by gas chromatography-mass spectrometry (GC-MS). Terpenes were identified in Item 1 (Identification). Terpenes include but are not limited to wood, wood products, turpentine, some cleaning products, and some solvents. Gasoline was identified in Item 2 (Identification). No ignitable liquid residues were detected in Item 3 (Not Detected). |
| UNG4BZ | A miscellaneous product was identified in Item #1. Gasoline was identified in Item #2. No ignitable liquids were detected in Item #3 (control sample). The specimens were extracted by passive concentration headspace extraction with activated charcoal and analyzed by gas chromatography/mass spectrometry. Disclaimer: Negative results do not rule the possibility that ignitable liquids were present at the scene. |
| UTCZVK | Upon analysis, I found that Item 1 containing others miscellaneous ignitable liquid while Item 2 containing gasoline. Item 3 did not contain any ignitable liquid residues. |
| V24Q3D | Petrol (gasoline) was detected on Item 2; this indicates that it has been in contact with liquid petrol. A complex series of naturally occurring hydrocarbons was detected on Item 1; petrol (gasoline) residues were notably absent. The detected residue appeared to be similar to Natural Turpentine-based solvents and cleaning products; such products can usually be considered ignitable. Turpentine is a product that is distilled from wood resins and therefore it inherently has a wide range of compositions and formulations, both between products and batches. Comparison against recovered controls could be undertaken to address potential sources of this residue. The compounds on item 1 and item 2 originated from different sources. |
| V3DKZY | After the analysis, I found that Item 1 contain miscellaneous products. I also found that Item 2 contain Gasoline |
| V3Y6XJ | Terpenes were identified in item 1. Terpenes are natural components in some softwoods and are also found in turpentine solvents and pine-based cleaners. Gasoline was identified in item 2. No ignitable liquids were identified in item 3. |
| V8R4AT | Examination of item #1 revealed the presence of a miscellaneous product containing terpenes. |

TABLE 4

| WebCode | Conclusions |
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| | Terpenes may be found in turpentine products and naturally occur in wood. Examination of item #2 revealed the presence of residual gasoline. Examination of item #3 failed to reveal the presence of ignitable liquids. |
| VAFM7K | These samples were analyzed using GC and GC/MS. Others-Miscellaneous compounds in the medium to heavy range(C10~C15) were identified in item 1, such as camphene, alpha-pinene, etc. and gasoline was identified in in[sic] item 2. |
| VBV2HZ | Item 1 was analyzed for the presence of ignitable liquid residues. A Medium Miscellaneous Product was detected. Examples include Turpentine Products and some specialty products. Item 2 was analyzed for the presence of ignitable liquid residues and Gasoline was detected. Item 3 was submitted as a comparison sample. |
| VC72J2 | Turpentine classified as miscellaneous was recovered in item 1. gasoline was found in item 2. there is no significant effect matrix due to the terrycloth or the nylon evidence bag. [sic] |
| VC8AUL | Item 1: The terpenes alpha pinene and camphene were identified. Terpenes are ignitable liquids that originate from plant sources, particularly softwoods, in the form of resin. They may be found in commercial products such as turpentine-based products, some insecticides, some wax-based polishes, naturally occurring wood oils, blended products, torch fuels, and some fragranced consumer products. Fragranced consumer products would include, but is not limited to, some air fresheners, deodorizers, laundry detergents, fabric softeners, dishwashing detergents, hand sanitizers, personal care products, baby shampoo, and cleaning supplies. The substrate of a submission should always be considered when terpenes are identified. Item 2: Ignitable liquid residue containing gasoline. Item 3: No ignitable liquid residues were detected. |
| VECCPC | Instrumental analysis of exhibit #1 revealed terpenes similar to those found in a turpentine product. Instrumental analysis of exhibit #2 revealed gasoline. No ignitable liquid was detected in exhibit #3 (comparison sample). |
| VJ3WEE | Gasoline was detected in the extract of item #1. It should be noted that terpenes occur naturally in some wood, as ignitable liquids such as turpentine and some wood finishes and as non-ignitable liquids such as some household cleaners. No ignitable liquids were detected in the extract of Item #3. |
| VJH3RH | Residues of a flammable liquid containing others-miscellaneous, turpentin[sic] products (mainly C10 with lesser amounts of C15), were detected in ITEM1. Residues of a flammable liquid containing gasoline were detected in ITEM2. |
| VRD6WF | Item 1 GC-MS results showed peaks in chromatogram that indicated numerous pinenes, terpenes and similar compounds. This material is a type of turpentine product (natural or commercial)and falls into ASTM: E1618-4 category of "Others - Miscellaneous". Mass Spectra from peaks of item 2 showed the presence of alkanes, aromatics, and condensed ring aromatics (ie alkynaphthalenes) expected in proper ratios for gasoline; classified as gasoline. |
| VTPU7J | Item 1A: Medium Others-Miscellaneous Item 1B: Gasoline Item 1C: Comparison sample |
| VU6WED | The volatile contents of Item 1, Item 2 and Item 3 were extracted using a passive carbon adsorption/elution technique and analyzed by gas chromatography-mass spectrometry (GC-MS). A turpentine product was identified in Item 1 and gasoline was identified in Item 2 (Identification). No ignitable liquid residues were detected in item 3 (Not Detected). |
| VWT3JM | Analysis of Item 1 revealed the presence of an other-miscellaneous class. Examples of this class are turpentine products, some blended products, and some speciality products. Analysis of Item 2 revealed the presence of gasoline. Ignitable liquid classification is based on ASTM E1618 Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography - Mass Spectrometry and/or the laboratory's internal policy and procedures. |
| VXAKU3 | Exhibit 1 was analyzed and determined to contain a medium miscellaneous product. Examples of medium miscellaneous products include, but are not limited to, turpentine products, some blended products, and various specialty products. Exhibit 2 was analyzed and was determined to contain gasoline. No common ignitable liquid residue was detected in Exhibit 3 (comparison sample). These conclusions are based upon gas chromatography-mass spectrometry (GC-MS) analysis of |

TABLE 4

| WebCode | Conclusions |
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| | concentrated headspace vapors from each sample. A reserve carbon strip containing concentrated headspace vapors from each sample was returned inside the original evidence containers. |
| W22LHF | Terpenes were detected in item 1. Terpenes are found in turpentine solvents and some pine-based cleaners. Terpenes are also natural components in some softwoods. A mixture of gasoline and a medium petroleum distillate was detected in item 2. Examples of medium petroleum distillates include some charcoal starters, some paint thinners, and some dry cleaning solvents. No ignitable liquids were detected in item 3. |
| W3V7RF | Terpenes were identified in Item 1. Terpenes are a natural component in some softwoods and are also found in turpentine solvents and pine-based cleaners. Gasoline was identified in Item 2. No ignitable liquids were identified in Item 3 (comparison blank). Samples of recovered materials from this case have been preserved with the evidence. |
| W4LV6L | An ignitable liquid classified as a light to medium miscellaneous ignitable liquid was detected in Item #1. Preliminary results indicate the presence of turpentine. Gasoline was detected in Item #2. No ignitable liquid was detected in Item #3. |
| W4RF9C | Exhibit 1: Terpenes were found. Terpenes are found in turpentines as well as naturally occurring in some types of wood. Exhibit 2: Unidentified Petroleum Product. Exhibit 3: No ignitable liquids found. Used for comparison to Exhibits 1 and 2. |
| W9L94R | Examination of item #1 revealed the presence of a miscellaneous product containing terpenes. Miscellaneous products include turpentine products, some blended products and some specialty products. Examination of item #2 revealed the presence of residual gasoline. Examination of item #3 failed to reveal the presence of ignitable liquids. |
| WDVR3K | 1. One heat-sealed nylon bag, labeled "Item 1" and reportedly containing a suspected cloth wick remnant, contained a second heat-sealed nylon bag holding one piece of white terrycloth. Gas chromatography Mass Spectrometry: A medium-range miscellaneous product was detected in Item 1. Examples of a medium-range miscellaneous product includes some turpentine-based products. 2. One heat-sealed nylon bag, labeled "Item 2" and reportedly contained a suspected cloth wick remnant, contained a second heat-sealed nylon bag holding one piece of white terrycloth. Gas Chromatography Mass Spectrometry: A mixture of a heavy range petroleum distillate and gasoline was detected in Item 2. An example of heavy range petroleum distillate would include kerosene. 3. One heat-sealed nylon bag, labeled "Item 3" and reportedly containing a suspected comparison cloth, contained a second heat-sealed nylon bag holding one piece of white terrycloth. Gas Chromatography Mass Spectrometry: No ignitable liquids were detected in Item 3. |
| WF3HEM | An ignitable liquid classified as a medium miscellaneous product was identified in item 1. Examples of medium miscellaneous products include, but are not limited to, some turpentines. An ignitable liquid classified as gasoline was identified in item 2. No recognizable ignitable liquids were identified in item 3. |
| WMHN68 | Item 1 contained a miscellaneous product in the medium classification range. Examples of a miscellaneous product in the medium classification range include turpentine products. Item 2 contains gasoline. Examples of gasoline includes all brands and grades of gasoline, including gasolines containing ethanol. Item 3 was examined as a comparison sample for Item 1, Item 2. No ignitable liquids were detected in item 3. |
| WVTH6L | CTS Item 1 contained turpentine. CTS Item 2 contained gasoline. No ignitable liquids were detected in CTS Item 3. |
| WZNGXJ | Evidence addressed in this report was received into the laboratory on the following date: August 5, 2015. Analysis for ignitable liquid residues by Diffusive Flammable Extraction trapping followed by Gas Chromatography/Mass Selective Detection: Item #1: Terpenes, examples of which can be found in some products used as cleaning solvents and turpentine. Item #2: Gasoline. Item #3: No ignitable liquid residues identified. Ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. In addition, negative results do not preclude the possibility that ignitable liquids were present. |
| X9WPLX | A miscellaneous product was identified in specimen #1. Gasoline was identified in specimen #2. No |

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| | ignitable liquids were detected in specimen #3. Turpentine is an example of a misc. product. All three samples were extracted by passive headspace concentration w/ activated charcoal and analyzed by gas chromatography-mass spectrometry. |
| XCU2MP | Item 1-A miscellaneous (terpene based product) was identified. Item 2-Gasoline was identified. Item 3-No ignitable liquid was detected. |
| XFXPDD | Results and Conclusions of Examinations: Item A1-1 was found to contain materials consistent with the composition of "MEDIUM MISCELLANEOUS PRODUCTS" as described by ASTM specifications E1618-14. The term "MEDIUM MISCELLANEOUS PRODUCTS" includes products such as turpentine products, some blended products and various specialty products. Item A1-2 was found to contain materials consistent with the composition of "GASOLINE" as described by ASTM specification E1618-14. The term "GASOLINE" includes all brands and grades of automotive gasoline including gasohol. Item A1-3 was "Control Sample" used for comparison purposes. 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. |
| XK76PH | I examined the items received and found:- a) Item 1 to consist of cloth wick remnant which on analysis, I detected to presence of others miscellaneous where the components are turpentine products. b) Item 2 to consist of cloth wick remnant which on analysis, I detected to presence of gasoline. c) Item 3 to consist of terrycloth substrate which on analysis, I did not detect any ignitable product. |
| XP6WYL | A residue of a medium miscellaneous product was detected in Item 1. Examples of medium miscellaneous products include turpentine products, some blended products, and some specialty products. A residue of gasoline was detected in Item 2. No ignitable liquids were detected in the control sample (Item 3). The samples were extracted by passive adsorption-elution techniques and analyzed by gas chromatography with mass spectrometry. |
| XRQFMJ | Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Lab Item # 1: A medium range miscellaneous product containing terpenes was identified. Terpenes are used in some turpentine solvents and some pine-based cleaners, but are also common to softwoods. Lab Item #2: Gasoline was identified. The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. Lab Item #3 (Comparison Sample for Lab Items #1 and #2): No ignitable liquids were identified. |
| XVDX64 | Item I contains components identifiable as various terpenes and essential oils indicating an Others-Miscellaneous ignitable liquid identifiable as a turpentine product. Item II contains components identifiable as evaporated gasoline. Item III failed to reveal the presence of an identifiable ignitable liquid. |
| XY8EBN | Item 1: A mixture of volatile substances, including terpene hydrocarbons as the principal constituents, was detected in the contents of this item. A suitable reference sample was not available for comparison. However, terpene hydrocarbons are common constituents of many essential oils and may be used in a variety of applications including as flavour additives for food, as fragrances in perfumery, in some cosmetic products and in some specialised solvents and cleaning products. Item 2: A mixture of volatile substances, including medium-volatility aromatic hydrocarbons together with lower levels of a heavy petroleum distillate in the range of C9-C14, was detected in the contents of this item. No conclusion can be made regarding the probable source of these substances as the composition did not correspond to a known ignitable liquid product. However, examples of products which may contain substances of this type include some cleaning products and surface coatings. Item 3: The contents of this item were examined for the presence of ignitable liquid residues, and none were found. |
| Y3L2DE | Analysis of Item 1 detected the presence of a mixture of medium to heavy-range terpene compounds. These compounds may be found in turpentine, certain paint thinners or removers, certain varnish |

TABLE 4

| WebCode | Conclusions |
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| | products, etc. Analysis of Item 2 detected the presence of gasoline. Analysis of Item 3 failed to detect the presence of any ignitable liquids. |
| Y6B9VQ | Item 1 was found to contain terpenes. Terpenes can be found in commercial turpentine products, some household products, and as a natural product of coniferous wood (such as pine). Item 2 was found to contain gasoline. Item 3 was used as a control. |
| YAQMJW | Residues of turpentine product were identified on Item 1. Turpentine products are classified as ignitable liquids. Residues of gasoline were identified on Item 2. No ignitable liquid residues were identified on Item 3. |
| YDP4RK | Results of gas chromatography-mass spectrometry analysis (GC-MS, Passive Headspace Concentration): Lab Item #1: Terpenes were identified. Terpenes are commonly found in, but not limited to, some turpentine solvents, some pine-based cleaners, and are also common to softwoods. Lab Item #2: Gasoline was identified. Lab Item #3: No ignitable liquids were identified. (Comparison Sample) |
| YFVGHY | Item 1.1 contained terpenes. Terpenes are found in turpentine solvents, pine- based cleaners, and in some softwoods. Item 1.2 contained gasoline. No ignitable liquids were detected in item 1.3. |
| YFWERU | Terpenes were detected in Item 1. Terpenes are naturally occurring in some types of wood and are used in products such as turpentine or turpentine-based solvents. Terpenes are ignitable liquids. Gasoline was detected in item 2. Gasoline is an ignitable liquid. No ignitable liquids were detected in Item 3. |
| YQ9TKV | 1. Analysis identified the presence of a medium miscellaneous product containing terpenes. Some examples of misc. products may include turpentine products, some blended products and various specialty products. 2. Analysis identified the presence of gasoline. Gasoline includes all makes, grades, and gasohol. |
| YTLCVD | Item 1 contained a medium-range miscellaneous class product consisting primarily of terpenes. Examples include turpentine products and some specialty products. Item 2 contained gasoline. No ignitable liquids were identified in item 3. |
| YUTKWX | The item 1 contained terpenes, typical natural components of wood. The compounds most likely originated from turpentine. Turpentine is an ignitable liquid, extracted from soft woods, and it is mainly used as a solvent, paint thinners, etc. The Item 2 contained compounds, typical for Gasoline(i.e. C1-C4 alkylbenzenes, alkanes in the range of C6-C9, octane enhancers, indanes...) and Medium Petroleum Distillate (predominant homologous n-alkane series in a Gaussian distribution of peaks from C10 to C14 with peak maximus at C12-C13, in the same range isoalkanes; aromatics were also detected. The Item 2 contained in traces C17 n-alkane and pristane, and most likely cycloalkanes. The detected mixture of gasoline and MPD in the Item 2 is an ignitable liquid. |
| YV83Y4 | Item 1 contains mostly terpenes and oxygenated terpenes; this is a flammable mixture. Composition is totally different from turpentine in our country and does not fit with the turpentines from the IRLC database. This could be an essential oil or a speciality product. In a real case we would ask the owner of the car about the content of the car before the fire. Item 2 contains ethanol and gasoline. This mixture is not sold in our country. In USA, Brazil and Holland this is sold as "gasohol" or "E5 to 15". Item 2 contains also a Medium Petroleum Distillate. Again in a real case we would ask the owner of the car about the content of the car before the fire. Item 3 is free of any flammable compound. |
| YXUUU7 | Results: Item 1 contained residues of acetone and turpentines (forexample[sic] a-pinene, camphene, limonene). Item 2 contained residues of aromatic compounds which are from gasoline. Item 3 contained no residues of ignitable liquids. Additional information: Turpentines are used in commercial products, such as wood turpentines and some cleaning products. Blank sample item 3 was observed in the interpretation. |
| Z6TJAP | Item 1: confirmed medium miscellaneous product. Examples include turpentine products, some blended products and some specialty products. Item 2: confirmed gasoline |
| ZAJLYM | Item 1 consisted of an approximately 4.5cm by 4.5cm portion of white towelling material with no visible charring or damage, heat sealed within two cryovac bags. The towelling was found to have a |

TABLE 4

| WebCode | Conclusions |
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| | <p>strong odour, similar to menthol and/or insect spray. Item 2 consisted of an approximately 4.5cm by 4.5cm portion of white towelling material with no visible charring or damage, heat sealed within two cryovac bags. The towelling did not have any strong recognisable odour. Item 3 consisted of an approximately 4.5cm by 5cm portion of white towelling material with no visible charring or damage, heat sealed within two cryovac bags. The towelling did not have any strong recognisable odour. The above items were examined for the presence of ignitable liquid residues (ILRs) using passive headspace sampling (adsorption onto activated charcoal and solvent desorption) followed by analysis of the extract using gas chromatography mass spectrometry. The item 001 was found to contain numerous terpenes, terpenoids and sesquiterpenes. These compounds can be found in wood turpentine, but are also used as natural insect repellents, bio pesticides and essential oils and fragrances. Item 2 was found to contain petrol (gasoline). Item 3 was not found to contain any common ignitable liquids. Note: Just as the absence of ILRs does not prove that an accelerant was not employed, the presence of residual ignitable liquids on an item is not a definitive indicator of intentional addition or suspicious circumstances. There may be legitimate reasons as to why an ignitable liquid was present.</p> |
| ZT2P23 | <p>Gas chromatographic analysis (GC-MS heated headspace sampling and passive headspace concentration) of item 1 through 3 was performed and yielded the following results and conclusions: item #1 - Terpenes (alpha pinene, camphene, and limonene) were identified within item 1. Terpenes are natural constituents of some woods and may arise from the heating or burning of some woods. Terpenes are also present in turpentine products and some pine based cleaners. Item #2 - Gasoline was identified within item #2. Item #3 - An ignitable liquid residue was not identified within item #3.</p> |
| ZT2TQ7 | <p>Results & Conclusions - Sample Preparation: (1)Passive Headspace Extraction Analytical Methods: (1)Gas Chromatography/Flame Ionization Detection (2)Gas Chromatography/Mass Selective Detection. Item 1: A miscellaneous product was identified. Examples of miscellaneous products include turpentine products, some blended products, and some specialty products. Item 2: Gasoline was identified. Item 3: No ignitable liquids were identified.</p> |
| ZTEUKD | <p>Evidence submitted: 001. #1 Box with "Proficiency Test Materials". Comments: GC/MS analysis of submission #01 revealed the presence of terpenes associated with turpentine. 2. GC/MS analysis of submission #02 revealed the presence of a medium boiling range petroleum distillate. 3. GC/MS analysis of submission #03 failed to reveal the presence of a flammable liquid.</p> |
| ZZWVTH | <p>EXHIBIT #: 1, AGENCY #: 1, DESCRIPTION: One nylon bag containing one nylon bag containing a piece of white terrycloth. Examination reveals the presence of an ignitable liquid residue in the Medium Range of the Miscellaneous Class. Refer to the attached Ignitable Liquid Classification System. EXHIBIT #: 2, AGENCY #: 2, DESCRIPTION: One nylon bag containing one nylon bag containing a piece of white terrycloth. Examination reveals the presence of an ignitable liquid residue in the Gasoline Class. Refer to the attached Ignitable Liquid Classification System. EXHIBIT #: 3, AGENCY #: 3, DESCRIPTION: One nylon bag containing one nylon bag containing a piece of white terrycloth (comparison sample). No ignitable liquid residue as defined by the attached Ignitable Liquid Classification System was detected.</p> |
| ZZWYYE | <p>Analysis of the samples gave the following results: Sample #: 1, Analysis Results: No ignitable liquids were detected. Sample #: 2, Analysis Results: Analysis indicated the presence of gasoline. Sample #: 3, Analysis Results: No ignitable liquids were detected. Conclusions: No ignitable liquids were detected in samples 1 and 3. Gasoline was detected in sample 2. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present at the fire scene. Ignitable liquids are volatile compounds that may have evaporated, been totally consumed in the fire, environmentally altered or removed, or are otherwise indistinguishable from background materials. These opinions are based upon my knowledge, skills, experience, training, education and personal observations as well as facts and data perceived by or made known to me, which facts and data are of the type reasonably relied upon by experts in my particular field in forming opinions or inferences. reference ignitable liquids. Individual components may be identified by their mass spectral data and retention time.</p> |

Additional Comments

TABLE 5

| WebCode | Additional Comments |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 23FAUX | Activated charcoal strips were used to collect any volatile organic compounds with an adsorption/elution technique. The compounds were then analyzed with a gas chromatograph/mass spectrometer. The charcoal strips used are contained in plastic vials and have each been repackaged inside the original item. |
| 2TP2K7 | Exhibit "A" (Item 1) was compared to one commercial example of medium miscellaneous not to all three commercial examples due to unavailability of the other two commercial examples (some blended products and some specialty products) therefore Exhibit "A" (Item 1) can either be some blended products or some specialty products. |
| 382UM4 | In the Item 2 also it was detected a Heavy Petroleum Distillate: fuel additive[sic]/treatment. In the item labeled as control bag, it was detected the chromatograph peak of Nylon (sample container material). |
| 3WBPBY | Item 1-This laboratory's requirement for a classification of a ignitable liquid is a corresponding ignitable liquid reference material. The GC/MS pattern obtained did not match any of the lab's reference materials. Because a classification[sic] of the entire sample pattern could not be made the terpenes (Alpha-pinene, Beta-pinene, and limonene) were confirmed by GCMS versus Alpha-pinene, Beta-pinene, and limonene standards. |
| 3WTBR9 | Item 002: Also a bell shape of five consecutive alkanes (C9-C13) was present. This is not common but not unlikely to exist among different brands, grade, and lot numbers of gasoline. It could also be explained if there is a gasoline additive in the sample or if a medium petroleum distillate is present on a smaller scale. |
| 4FZXT7 | Toluene was also detected in Item 1. n-alkanes C8 - C13 was also detected in Item 2. Their low amounts and random ratios may be a contribution from the gasoline. |
| 4N8GN6 | alpha-pinene, camphene, carene and eucalyptol were the major components detected in item 1. Beta-pinene was not detected in this item. |
| 4QG8AR | Terpenes - compounds constituting the components of turpentine are also present in the wood of conifer trees, which is their natural source, but in this case wood is not a substrate of the sample so wood cannot be the source of detected compounds. The profile of the components of gasoline, found in item 2, suggest that the gasoline was evaporated to about 25% of initial volume. |
| 4T3Z2Z | Item #1. The presence of multiple terpene related compounds were detected indicating the possible presence of a turpentine product. Item #2. High abundances of light branched alkanes were also detected in this sample. |
| 4XXH7K | The identification of a volatile ignitable liquid in an item does not necessarily lead to the conclusion that a fire was deliberately set. Heavy petroleum distillates are ignitable liquids. Diesel fuel, fuel oil, stove oil, furnace oil, jet fuel and some products marketed as kerosene are examples of heavy petroleum distillates. Terpene based products are volatile ignitable liquids. Terpenes are a natural component of some soft woods and are used in a variety of products such as food additives, cleaners, fragrances and pharmaceuticals. Turpentine is a terpene based product. When more than one volatile ignitable liquid is identified, such as in Item 2, the liquids may each originate separately, from different commercial sources, or share a common origin, as components of a single unidentified commercial product. |
| 4YRQEJ | Note: The identification of an ignitable residue from the fire debris from a fire scene does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of liquid residues. Our laboratory is situated in [Continent], and we don't have so standard samples, of which chromatograms could be fit exactly with those chromatograms which resulted the testing of Item #1 and Item #2, so we can not identify the commercial product we have found in the mentioned items. |
| 68EYH8 | Terpenes were identified in item 1. Our laboratory policy does not report out terpenes since they can be found in the substrate. Since the scenario was a burned car and, it would be safe to say that the terpenes were not from the substrate. [sic] |

TABLE 5

| WebCode | Additional Comments |
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| 6BYXR | No flammable liquids were detected in the sample labelled Item 3. |
| 6MRG9L | According to (Table 1) ASTM E 1618-14 (Ignitable Liquid classification scheme), we are listing the products found in individual classification according to (the class and sub class) as he following:- Results for (Item 1) Contains : Turpentine HydroCarbon such as :- (Alpha pinene, Beta Pinene ,Camphene ,Alpha limonene and others) which is according to the table E 1618 considered a Turpentine product (Classified :others- Miscellaneous- Medium) . Results for (Item 2) Contains : Gasoline and (Petroleum Distillate Heavy Subclass C8-C16). |
| 6QQL7Z | On item 1, acetone, toluene, ethylbenzene, xylene, a-pinene, camphene, verbenine were detected. |
| 73ZN63 | Item 1 Examples include Turpentine containing products. Item 2 Gasoline includes all brands and grades and of automotive gasoline including gasohol. |
| 7A3NMK | No ignitable liquids were detected in Item 3. |
| 7F8KBQ | We have used the ASTM E 1618-14. Item 2 : the territory that my lab covers does not see abundance of n-alkanes in the gasoline. |
| 99M7KQ | An Association Scale is included in the report. |
| 9AWAU9 | As stated with every test, we do not accept nylon bags for our evidence. Additionally, the tests never involve fire debris, only an unburned substrate. This is not reflective of most case work. |
| 9PQDJ6 | Item 1A above [Table 4-Conclusions] is agency item 1. Item 1B above [Table 4-Conclusions] is agency item 2. Item 1C above [Table 4-Conclusions] is agency item 3. |
| 9QHVEY | The identification of an ignitable liquid in an item does not necessarily lead to the conclusion that a fire was deliberately set. The submitted items have been extracted/concentrated using activated carbon strip or diluted, and have been analyzed by gas chromatography/mass spectrometry (GC/MS), which is a standard instrumental technique. |
| 9XFK26 | I did not detected any ignitable liquid in Item 3. |
| A89YWN | Note: Although an ignitable liquid was identified in the submitted samples, further investigation may reveal a legitimate reason for the presence of an ignitable liquid. |
| AAUFWZ | In casework, I would spend more time trying to find commercial products that would be more appropriate as references for both items. Item 1: Because this product was found in a piece of fabric which appeared to be a wick for a Molotov, inside a car, where no wood products were proposed to be located, it is assumed that the terpenes detected in this sample are from a Miscellaneous product which contains terpenes. It could be a natural turpentine or turpentine substitute. In casework, I would not report this as a Miscellaneous unless I found a better comparison reference. Item 2: The aromatic pattern is consistent with gasoline, but the alkane pattern appears to have two patterns-C6-C8, which is consistent with a less weathered gasoline, and C9-C14, which is consistent with a more weathered gasoline or MPD. The high 2,2,4-trimethylpentane and low naphthalene profile is seen in some gasolines. This could be an inconsistently weathered gasoline, or possibly a mixture. The nylon bags used to contain the samples should not be used anymore, they have been determined to leak and are not appropriate for containing volatiles. Our Laboratory does not approve their use. |
| APGENE | Please Note: Terpenes are naturally occurring in some soft woods. |
| BCBPCY | Item 1 is not typical of routine casework. While it is something that could occur in a case, it is not representative of routine casework. |
| BVR422 | The language used in my report (see #4 above [Table 4-Conclusions]) is based not only on ASTM classification criteria, but also on our laboratory's requirement that the sample data be correlated with a known laboratory comparison standard with sufficient and significant points of correlation. It is this additional requirement that would lead me to report the results for Items 1 and 2 as "inconclusive." |
| CM82ZC | The unanalyzed portion of the activated charcoal strips are being returned to the submitting agency along with the rest of the original evidence. |
| CPAZCQ | Three laboratory glass vials were repackaged with the evidence. The presence of ignitable liquids in |

TABLE 5

| WebCode | Additional Comments |
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| | Item 1 and Item 2 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids. |
| CWVQ6D | The use of nylon bags as packaging is not consistent with the majority of casework we receive. |
| CXKBJV | No commercial standard could match Item 1. |
| CZXP HQ | Item 1 would not be reported as either positive or negative for an ignitable liquid, but includes the possibility of both conclusions. Selection of either choice for conclusion in section 1 of this form is not accurate. |
| DFKNLV | Item #1 contains terpenes. Item #2 contains gasoline. There are characteristics of a heavy petroleum distillate, but not enough target compound to report. |
| ELPK7V | Some kind of HPD component appears in Item #2. Noted in case file. |
| EW6LEA | Item 1: Per laboratory protocol, when turpentine products are detected and the sample is suspected of containing soft wood, the results and a disclaimer such as "Terpenes are a natural product of some wood and are extracted commercially for turpentine. Natural wood terpenes cannot be distinguished from commercially prepared turpentine" are reported. Because of the nature of item #1, - apparent cloth wick from incendiary devices - noticeable turpene[sic] odor - item was collected from an automobile, there was no reason to suspect the submitted item contained soft wood. Therefore, no disclaimer statement was included in the report. |
| F2FAEW | Adsorption duration is not necessarily the same for all samples. Form does not allow for this option. |
| G9AL4Y | Item 2. Noted in notes that item 2 contained gasoline and a distillate pattern with branch alkanes whose ratios are not part of a gasoline pattern. |
| GURQPN | Two laboratory vials were repackaged with the evidence. The presence of ignitable liquids in Item 1 and Item 2 does not necessarily lead to the conclusion that the fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquids. The absence of ignitable liquids in Item 3 does not preclude their use at the scene. |
| GWJRTQ | Terpenes can be found in turpentine products. |
| GZJZXZ | Item 2 appears to contain gasoline with an unexplained high abundance of alkanes. |
| GZYDLX | The medium range aliphatics in Item 3[sic] were unusually high for a gasoline, however, were not reported separately due to being within the gasoline range and the relative overall abundance compared with the aromatics. |
| H3KRW7 | This laboratory does not employ the ASTM classification scheme for reporting purposes. This laboratory has not encountered a product exhibiting the ignitable liquid profile found in item 1 and does not have a database of ignitable liquids manufactured in other countries. |
| HDMJBL | None of the major peaks detected in item 1 were detected in item 2 and vice versa, that is, no mixture was detected. |
| HEVT4J | Note: Terpenes and terpenoids are commonly found in turpentine oils and essential oils, among other applications. |
| J34HEC | Item #1: has a high peak of Pinene and Camphene, also has some cyclo compound after Time 12.00 to 18.00. Item #2: The Extracted Ion Profile shows a high ratio of Aromatic and Alkanes abundances and are almost having the same ratio. Usually MPD product shows low Gasoline profile, but in this questioned sample the Gasoline profile is high, which mean that question sample could have a mixture of MPD product and Gasoline. |
| J498EZ | The definitive identification of turpentine in Item 1 is based on two points: 1 - the case scenario provided did not indicate the presence of any soft woods which could have been the source of the terpene compounds detected, and 2 - the identification of acetone and toluene along with the terpenes, compounds which one would not expect to find in pine-based cleaning solutions. |
| K64C9Y | Laboratory Policies State: "All positive identifications will be compared to ignitable liquid library samples." (FC-P010 2.6) "A comparison to a known library reference sample will be conducted in any |

TABLE 5

| WebCode | Additional Comments |
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| | case resulting in identification. The data for the known reference sample will be included in the case folder." (FC-P009 2.14) |
| KDDJA9 | The miscellaneous ignitable liquid was in the medium range |
| KNUWBQ | Item 2 displayed additional alkanes after C13 however the GC abundance was low therefore it was determined to be a medium petroleum distillate instead of a heavy petroleum distillate. |
| KZWNW9 | The laboratory analysis of the samples was performed in accordance with ASTM E1412-12 (Separation and Concentration of Flammable or Combustible Residues from Fire Debris Samples by Passive Headspace Concentration with Activated Charcoal) and ASTM E1618-11 (Identification of Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectroscopy). The identification of an ignitable liquid from a fire scene alone does not necessarily prove that the fire was an incendiary act. |
| LUYJFY | Regarding Item 1, laboratory policy states that all positive identifications require comparison to an ignitable liquid library sample. There were strong odors detected upon opening the exterior nylon bags on both Items 1 & 2, but no defects were observed. |
| LVU8W9 | My item 1A is CTS's item 1, my item 1B is CTS's item 2 and my item 1C is CTS's item 3. |
| MCFMN4 | Products found on each wick are different. |
| MTLCRW | Our current laboratory submission policy does not recommend the use of nylon bags for fire debris samples. |
| MUAF82 | The identification of a volatile ignitable liquid in an item does not necessarily lead to the conclusion that a fire was deliberately set. Medium miscellaneous[sic] products are volatile ignitable liquids and may include turpentine products, some blended products and some specialty products. |
| PDEAWR | The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. Evidence listed on [Document] will be forwarded to the Quality Assurance Section. |
| PEFXN4 | The product identified in item #1 (medium miscellaneous product) was determined to be similar to a known turpentine product. The submitted evidence lacked any wood products that may have contributed to the ignitable liquid pattern. |
| PQLZYZ | Disposition of Evidence: The unanalyzed portion of the activated charcoal strip is being returned to the submitting agency along with the rest of the original evidence. |
| Q42P4F | A medium miscellaneous product comprised of terpenes was observed in item 1. Gasoline was observed in item 2. No ignitable liquid residues were observed in item 3. The presence of an ignitable liquid residue in items 1 and 2 does not in and of itself indicate an incendiary fire. The results do not eliminate the possibility that an ignitable liquid was present at the incident in question for item 3. |
| REPNTY | Nylon bags are not the best packaging for ignitable liquids. There was a leak inside the inner nylon bag and when I cut into the outer bag, I could smell the product used. Maybe consider using another type of packaging container. |
| RLN9PU | A qualifying statement is not needed for Item 1 as the sample did not contain soft wood and the presence of acetone and toluene indicate that the residue recovered is not typical of a pine-based cleaner. |
| T9QJG8 | The majority of the ignitable liquid residue, that was detected in Item 1, is in the carbon number range of C9 to C13. The majority of the gasoline residue, that was detected in Item 2, is in the carbon number range of C5 to C13. |
| TUP8MU | Note: 1. Pinenes and carene are commonly found in some turpentine products. 2. The identification of ignitable liquid residues in Item #1 and Item #2 does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. 3. Item #3 was submitted as a comparison blank |
| TV3U69 | The [Laboratory] does NOT generally make positive Terpenes calls due to the presence of soft woods |

TABLE 5

| WebCode | Additional Comments |
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| | throughout [State]. These types of soft woods used to build homes, various structures, etc are the same types of wood used in the distillation process to create turpentine and similar solvents. Protocol criteria requires that the substrate (evidence) submitted be unlikely to contain natural pinenes or terpenes (e.g. swab from metal or concrete surfaces; unknown liquid on piece of cloth as in this case) AND result must be at least one order of magnitude greater than other peaks present. |
| TVJTEY | Arson |
| TYNEBC | Failure to identify an ignitable liquid in any samples of fire debris should not be interpreted to mean that an ignitable liquid could not have been present. It means only that none could be recovered from the debris and or detected during analysis. These opinions are based upon my knowledge, skills, experience, training, education and personal observations as well as facts and data perceived by or made known to me, which facts and data are of the type reasonably relied upon by experts in my particular field in forming opinions or inferences. |
| UH9KAM | There was no peak detected in chromatogram for Item 2. Besides, the chromatogram for Item 2 was the same as the chromatogram for Item 3 (control). |
| UNG4BZ | For Item #1: Turpentine product was based off the identification of a pinene and camphene (known terpenes). For Item #2: See between 7 min and 11 min - possible (cannot confirm) blended product. Identified C10, C12, C13 report only gasoline. |
| V24Q3D | In routine casework, additional turpentine-based products would be sought and used for comparison purposes for Item 1. Additionally, flammability tests could be undertaken on Item 1 (using Item 3 as a control) to address what affect the detected residue would have upon ignitability; this is outside of the scope of this test. Heated headspace was used as there was no requirement to preserve the items for other forensic examinations (such as DNA and fingerprints). If there had been, room temperature sampling would have been used, at least initially. It might also be possible to determine whether the fabrics might once have been part of the same larger piece of material, by fibre analysis and/or physical fit examination. |
| VC8AUL | Item 1: If sample I had consisted of debris rather than a suspected cloth wick, caution would have been taken in reporting these compounds due to similar patterns arising from pine building materials. Further investigation would be required. This was a vehicle fire scenario. Ordinarily, vehicles would not have a softwood substrate. Item 3: Comparison Sample. |
| VJ3WEE | Some characteristics of a heavy petroleum distillate was observed in item #2. Insufficient data to confirm. |
| VXAKU3 | In real casework, a qualifier would likely be added to the report for Exhibit 1 (depending on the sample matrix), since terpenes/pinenes are found in some pine/wood products. |
| WDVR3K | The nylon bags used to submit the evidence for this proficiency are not accepted by this laboratory for submission due to issues with the heat-sealing and the fragile nature of them. |
| X9WPLX | Terpene products @ pinene & camphene present in #1. Fire Debris Analysis pg 340-341 ch. 9, non petroleum based ignitable liquids. Elevated alkanes noted in #2, Fire Debris Analysis ch. 9 p322-327. Gasoline not uncommon for a Gaussian distribution of spiking alkanes - "old" gasoline (not fresh). |
| XK76PH | The components/flammables detected on item 1 and item 2 is not similar. |
| YDP4RK | The identification of an ignitable liquid residue on tested evidence does not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. |
| YUTKWX | The detected substrate compounds (Item 3) were negligible influenced on interpretation of analytical results. |
| YV83Y4 | The MPD of item 2 is not uniformly distributed on the matrix. |
| YXUUU7 | Item 2 contained also residues of ethanol, but it was not reported, because ethanol is most likely included in gasoline. In item 2 normal alkanes (kerosene/C13-C17) were detected with headspace- |

TABLE 5

| WebCode | Additional Comments |
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| | analysis with GC-FID, but these alkanes could not be confirmed by solvent extraction (diethyl ether) and that is why these compounds are not reported. |
| ZAJLYM | The odour from Item 1 could be smelt when the external cardboard box was opened, indicating that the item was not completely sealed, or the bags were not airtight. |
| ZT2P23 | The identification of an ignitable liquid residue does not necessarily lead to the conclusion that a fire was incendiary in nature. The absence of an ignitable liquid residue does not preclude the possibility that ignitable liquids were present. |
| ZT2TQ7 | Terpenes are contained in commercially available products such as turpentine. However, terpenes are also naturally occurring and can be found in some plants and coniferous trees. |
| ZZWVTH | A copy of the Ignitable Liquid Classification table is attached to every report. |
| ZZWYYE | Test Description and Results: Extraction of the debris was done in accordance with ASTM Standard Practice E1412-12(^1). Application of this technique by laboratory employs the use of adding an activated charcoal polymer strip to the sample container and heating the resealed container at 65° C for 16 hours (minimum). After allowing the sample to cool to room temperature, the charcoal strip is removed from the sample and split. One half of the charcoal strip is stored and the other half is desorbed with carbon disulfide and analyzed in accordance with ASTM Standard E1618-14(^2). ASTM Standard E1618-14 was used to identify ignitable liquid residues present in the samples. This standard employs Gas Chromatography/Mass Spectrometry (GC/MS) to generate chromatograms and mass spectral data for comparison with similar data from known ignitable liquids. Total ion chromatograms and extracted ion profiles are evaluated by visual pattern matching against known. (^1)E1412-12 Standard Practice for Separation of Ignitable Liquid Residues from Fire Debris by Passive Headspace Concentration with Activated Charcoal. (^2)E1618-14 Standard Test Method for Ignitable Liquid Residues in Extracts from Fire Debris Samples by Gas Chromatography-Mass Spectrometry. |

Collaborative Testing Services ~ Forensic Testing Program

Test No. 15-536: Flammables AnalysisDATA MUST BE RECEIVED BY October 05, 2015 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

Accreditation Release Statement

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

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

Online Data Entry

Visit www.cts-portal.com to enter your proficiency test results online. If you have any questions please do not hesitate to contact CTS.

Scenario:

Police are investigating an attempted arson of a vehicle. Investigators collected what appeared to be cloth wicks from the remnants of incendiary devices found on the back seat and on the front passenger side floor. They immediately sealed the cloths within nylon evidence bags. The police are requesting that you identify any flammable liquid(s) that may be present on the cloths.

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

Items Submitted (Sample Pack FLAM):

- Item 1 Suspected cloth wick remnant located on the vehicle's back seat.
- Item 2 Suspected cloth wick remnant located on the vehicle's front passenger side floor.
- Item 3 Terrycloth substrate intended as a comparison blank in a nylon evidence bag.

Please return all pages of this data sheet.

Page 1 of 4

Participant Code:
WebCode:

1.) Using the ASTM E 1618-14 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.

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

2.) Flammable Recovery Techniques

Adsorption Headspace

a) Method:

- Passive
- Dynamic

b) Adsorption Temperature:

- Room Temperature
- Heated (_____ °C)

c) Adsorption Duration: _____

d) Adsorbent:

- Carbon/Charcoal
- Other: _____

e) Desorption:

- Solvent: _____
- Thermal

Other Recovery Techniques

Specify: _____

3.) Flammable Identification Techniques

- GC
- GC/MS
- Other (specify): _____

Please return all pages of this data sheet.

Collaborative Testing Services ~ Forensic Testing Program

RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:

Participant Code:

WebCode:

for Test No. **15-536: Flammables Analysis**

This release page must be completed and received by **October 5, 2015** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

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 laboratory's designated individual 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) _____

ANAB RELEASE

If your laboratory maintains its accreditation through ANAB, please complete the following form in its entirety to have your results forwarded.

ANAB Certificate No. _____

Signature and Title _____ Date _____

Laboratory Name _____

Location (City/State) _____

Please return all pages of this data sheet.