Weathered Petroleum
Analytical Reference Materials

- Reliable mixes for arson investigations and environmental testing.
- Produced under stringent quality standards.
- Custom mixes available.
Weathered Petroleum Analytical Reference Materials

- Arson investigations (ASTM Fire Debris Analysis)
- Environmental Analysis (Underground Storage Tank Monitoring)

These products are designed to identify weathered petroleum products in environmental samples and arson investigation samples. Weathering by evaporation, biological decomposition, or ecological action can dramatically change the fingerprint of petroleum products—using our weathered petroleum reference materials for pattern recognition will help you identify the type of petroleum product in your sample.

Restek weathered petroleum products are prepared by controlled evaporation in a laboratory environment under strict quality control standards. We thoroughly document our procedures in compliance with our ISO 9001:2000 registration and include those records in our free data packs.

**ASTM E1387 and E1618 Fire Debris Analysis**

**E1387 Column Resolution Check Mix**

(13 components)

- n-hexane (C6)
- n-octane (C8)
- n-decane (C10)
- n-dodecane (C12)
- n-tetradecane (C14)
- n-hexadecane (C16)
- n-octadecane (C18)
- n-eicosane (C20)
- 2-ethyltoluene
- 3-ethyltoluene
- toluene
- 1,2,4-trimethylbenzene
- p-xylene

Concentration is µg/mL, Volume is 1mL/ampul
cat. # 31224

**E1618 Test Mix**

(13 components)

Components in this mix (0.5µL/mL or 0.05% volume/volume each) are at 10X the concentration of the final test solution specified in ASTM 1618 and ASTM 1387.

- n-hexane (C6)
- n-octane (C8)
- n-decane (C10)
- n-dodecane (C12)
- n-tetradecane (C14)
- n-hexadecane (C16)
- n-octadecane (C18)

Concentration is µg/mL. Volume is 1mL/ampul.
cat. # 31613

**Unleaded Gasoline**

Prepared from a single source (one refinery) product. Samples of regular and premium grade unleaded gasoline were collected, then blended in equal volumes. The weathered materials indicate the percent weight loss from the original material.

**Unleaded Gasoline (ASTM Class 2 Accelerant)**

Concentration is µg/mL. Volume is 1mL/ampul.

### Concentration

<table>
<thead>
<tr>
<th>Compound</th>
<th>Solvent</th>
<th>Conc.</th>
<th>cat.#</th>
</tr>
</thead>
<tbody>
<tr>
<td>unweathered</td>
<td>PTM</td>
<td>5,000</td>
<td>30096</td>
</tr>
<tr>
<td>25% weathered</td>
<td>PTM</td>
<td>5,000</td>
<td>30097</td>
</tr>
<tr>
<td>50% weathered</td>
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<tr>
<td>75% weathered</td>
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<td>30099</td>
</tr>
<tr>
<td>95% weathered</td>
<td>PTM</td>
<td>5,000</td>
<td>30436</td>
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</table>

PTM = P&T methanol

**Weathered Gasoline Kit**

Contains 1mL each of these mixtures.
cat. # 30100

**Kerosene**

Prepared from a single source (one refinery) product. The weathered materials indicate the percent weight loss from the original material.

**Kerosene (ASTM Class 4 Accelerant)**

Concentration is µg/mL. Volume is 1mL/ampul.

### Concentration

<table>
<thead>
<tr>
<th>Compound</th>
<th>Solvent</th>
<th>Conc.</th>
<th>cat.#</th>
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</thead>
<tbody>
<tr>
<td>unweathered</td>
<td>D</td>
<td>5,000</td>
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<tr>
<td>25% weathered</td>
<td>D</td>
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<td>50% weathered</td>
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</tr>
<tr>
<td>75% weathered</td>
<td>D</td>
<td>5,000</td>
<td>31232</td>
</tr>
</tbody>
</table>

D = methylene chloride

**Weathered Kerosene Kit**

- 31229: Kerosene Standard
- 31230: Kerosene Standard: 25% Weathered
- 31231: Kerosene Standard: 50% Weathered
- 31232: Kerosene Standard: 75% Weathered

Contains 1mL each of these mixtures.
cat. # 31238
Diesel Fuel #2
Prepared from a single source (one refinery) product. The weathered materials indicate the percent weight loss from the original material.

Diesel Fuel #2 (ASTM Class 5 Accelerant)
Concentration is µg/mL. Volume is 1mL/ampul.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Solvent</th>
<th>Conc.</th>
<th>cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>unweathered</td>
<td>D</td>
<td>5,000</td>
<td>31233</td>
</tr>
<tr>
<td>25% weathered</td>
<td>D</td>
<td>5,000</td>
<td>31234</td>
</tr>
<tr>
<td>50% weathered</td>
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<td>5,000</td>
<td>31235</td>
</tr>
<tr>
<td>75% weathered</td>
<td>D</td>
<td>5,000</td>
<td>31236</td>
</tr>
</tbody>
</table>

D = methylene chloride

Weathered Diesel Fuel #2 Kit
31233: Diesel Fuel #2 Standard
31234: Diesel Fuel #2 Standard: 25% Weathered
31235: Diesel Fuel #2 Standard: 50% Weathered
31236: Diesel Fuel #2 Standard: 75% Weathered

Contains 1mL each of these mixtures.

Mineral Spirits
There are four general types of mineral spirits, classified according to boiling point range (BPR):

- Type I (Stoddard solvent)  BPR 149–182°C
- Type II (high flash point)  BPR 177–196°C
- Type III (odorless)  BPR 149–196°C
- Type IV (low dry point)  BPR 149–174°C

We prepare our mineral spirit solutions from an equal volume blend of Type I, II, and III mineral spirits.

Mineral Spirits
Concentration is µg/mL. Volume is 1mL/ampul unless otherwise noted.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Solvent</th>
<th>Conc.</th>
<th>cat. #</th>
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<tr>
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<tr>
<td>unweathered (5mL)</td>
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<td>31260</td>
</tr>
<tr>
<td>25% weathered</td>
<td>D</td>
<td>5,000</td>
<td>31226</td>
</tr>
<tr>
<td>50% weathered</td>
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<td>5,000</td>
<td>31227</td>
</tr>
<tr>
<td>75% weathered</td>
<td>D</td>
<td>5,000</td>
<td>31228</td>
</tr>
</tbody>
</table>

D = methylene chloride

Weathered Mineral Spirits Kit
31225: Mineral Spirits Standard
31226: Mineral Spirits Standard: 25% Weathered
31227: Mineral Spirits Standard: 50% Weathered
31228: Mineral Spirits Standard: 75% Weathered

Contains 1mL each of these mixtures.

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Unweathered Diesel Fuel #2 on Rxi™-1ms

Mineral Spirits
There are four general types of mineral spirits, classified according to boiling point range (BPR):

- Type I (Stoddard solvent)  BPR 149–182°C
- Type II (high flash point)  BPR 177–196°C
- Type III (odorless)  BPR 149–196°C
- Type IV (low dry point)  BPR 149–174°C

We prepare our mineral spirit solutions from an equal volume blend of Type I, II, and III mineral spirits.

Mineral Spirits
Concentration is µg/mL. Volume is 1mL/ampul unless otherwise noted.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Solvent</th>
<th>Conc.</th>
<th>cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>unweathered</td>
<td>D</td>
<td>5,000</td>
<td>31225</td>
</tr>
<tr>
<td>unweathered</td>
<td>D</td>
<td>50,000</td>
<td>31260</td>
</tr>
<tr>
<td>25% weathered</td>
<td>D</td>
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<tr>
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</tr>
<tr>
<td>75% weathered</td>
<td>D</td>
<td>5,000</td>
<td>31228</td>
</tr>
</tbody>
</table>

D = methylene chloride

Weathered Mineral Spirits Kit
31225: Mineral Spirits Standard
31226: Mineral Spirits Standard: 25% Weathered
31227: Mineral Spirits Standard: 50% Weathered
31228: Mineral Spirits Standard: 75% Weathered

Contains 1mL each of these mixtures.

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50% Weathered Diesel Fuel #2 on Rxi™-1ms
**Rxi™-1ms (nonpolar phase, Crossbond® 100% dimethyl polysiloxane)**
- Low bleed at 350°C allows for easier integration.
- Excellent column coating efficiency for better resolution between peaks.
- Reproducible chromatographic performance from column to column, allowing new columns to be installed without additional method optimization.

### Rxi™-1ms Columns (fused silica)
(Crossbond® 100% dimethyl polysiloxane)

<table>
<thead>
<tr>
<th>ID</th>
<th>df (µm)</th>
<th>temp. limits</th>
<th>15-Meter</th>
<th>30-Meter</th>
<th>60-Meter</th>
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</thead>
<tbody>
<tr>
<td>0.25mm</td>
<td>0.25</td>
<td>-60 to 330/350°C</td>
<td>13320</td>
<td>13323</td>
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<tr>
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<td>-60 to 330/350°C</td>
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<td>-60 to 330/350°C</td>
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<td>0.32mm</td>
<td>0.25</td>
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<td>13324</td>
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<tr>
<td>0.50</td>
<td>0.50</td>
<td>-60 to 330/350°C</td>
<td>13336</td>
<td>13339</td>
<td>13342</td>
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<tr>
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<td>-60 to 330/350°C</td>
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<td>13340</td>
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<td>1.00</td>
<td>1.00</td>
<td>-60 to 330/350°C</td>
<td>13352</td>
<td>13355</td>
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<tr>
<td>1.50</td>
<td>1.50</td>
<td>-60 to 330/350°C</td>
<td>13367</td>
<td>13370</td>
<td>13373</td>
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<table>
<thead>
<tr>
<th>ID</th>
<th>df (µm)</th>
<th>temp. limits</th>
<th>12-Meter</th>
<th>20-Meter</th>
<th>25-Meter</th>
<th>50-Meter</th>
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</thead>
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<tr>
<td>0.20mm</td>
<td>0.33</td>
<td>-60 to 330/350°C</td>
<td>13397</td>
<td>13398</td>
<td>13399</td>
<td></td>
</tr>
</tbody>
</table>

**searching for the Perfect Solution?**

Restek should be your first choice for custom-made reference materials. Maximum convenience, maximum value, minimum time spent blending calibration mixtures in your laboratory.

- Quick quotations.
- Mixtures made to your EXACT specifications.
- Most reference materials shipped within 5-10 working days after receipt of your order*

We have more than 2,000 pure, characterized, neat compounds in our inventory! If you do not see the EXACT mixture you need listed here, contact us.

* Availability of raw materials and final product testing requested may affect delivery of some mixtures.

www.restek.com/solutions

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Restek Corporation
110 Benner Circle
Bellefonte, PA 16823-8812

Professional Standards of Operations: Quality Assurance System

ISO 9001:2000

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