1 Identification

- Product identifier
- Trade name: beta-Pinene Standard (1X2 mL)
- Part number: WRK-105B
- Application of the substance / the mixture: Reagents and Standards for Analytical Chemical Laboratory Use
- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
  Agilent Technologies, Inc.
  5301 Stevens Creek Blvd.
  Santa Clara, CA 95051 USA
- Information department:
  Telephone: 800-227-9770
  e-mail: pdl-mds_author@agilent.com
- Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard(s) identification

- Classification of the substance or mixture

  - GHS02 Flame
    Flam. Liq. 2  H225  Highly flammable liquid and vapor.

  - GHS08 Health hazard
    Care. 1A  H350  May cause cancer.

  - GHS07
    Eye Irrit. 2A  H319  Causes serious eye irritation.

- Label elements
- GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms

  - GHS02
  - GHS07
  - GHS08

- Signal word: Danger
- Hazard-determining components of labeling:
  - Ethanol
- Hazard statements
  - Highly flammable liquid and vapor.
  - Causes serious eye irritation.
  - May cause cancer.

(Contd. on page 2)
Trade name: beta-Pinene Standard (1X2 mL)

- **Precautionary statements**
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Keep container tightly closed.
  Ground/bond container and receiving equipment.
  Use explosion-proof electrical/ventilating/lighting/equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Wash thoroughly after handling.
  Wear protective gloves/protective clothing/eye protection/face protection.
  If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  IF exposed or concerned: Get medical advice/attention.
  IF eye irritation persists: Get medical advice/attention.
  In case of fire: Use for extinction: CO2, powder or water spray.
  Store in a well-ventilated place. Keep cool.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    Health = 2
    Fire = 3
    Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  Health = *2
  Fire = 3
  Reactivity = 0

- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT**: Not applicable.
    - **vPvB**: Not applicable.

---

**3 Composition/information on ingredients**

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**
  - 64-17-5 ethanol 97.465%
  - 19902-08-0 beta-pinene 2.535%

---

**4 First-aid measures**

- **Description of first aid measures**
  - **General information:** Immediately remove any clothing soiled by the product.
Trade name: beta-Pinene Standard (1X2 mL)

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  - Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.

### Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

### Protective Action Criteria for Chemicals

<table>
<thead>
<tr>
<th>PAC</th>
<th>Compound</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAC-1:</td>
<td>64-17-5 ethanol</td>
<td>1,800 ppm</td>
</tr>
<tr>
<td>PAC-2:</td>
<td>64-17-5 ethanol</td>
<td>3300* ppm</td>
</tr>
<tr>
<td>PAC-3:</td>
<td>64-17-5 ethanol</td>
<td>15000* ppm</td>
</tr>
</tbody>
</table>

## 7 Handling and storage

- **Handling:**
  - **Precautions for safe handling**
    - Ensure good ventilation/exhaustion at the workplace.
    - Open and handle receptacle with care.
8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.

- Control parameters

<table>
<thead>
<tr>
<th>Components with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>64-17-5 ethanol</strong></td>
</tr>
<tr>
<td>PEL</td>
</tr>
<tr>
<td>REL</td>
</tr>
<tr>
<td>TLV</td>
</tr>
</tbody>
</table>

- Additional information: The lists that were valid during the creation were used as basis.

- Exposure controls

- Personal protective equipment:

- General protective and hygienic measures:
  Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes. Avoid contact with the eyes and skin.

- Breathing equipment:
  When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed. Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

- Protection of hands:
  Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

- Material of gloves
  For normal use: nitrile rubber, 11-13 mil thickness
  For direct contact with the chemical: butyl rubber, 12-15 mil thickness
Trade name: beta-Pinene Standard (1X2 mL)

- **Penetration time of glove material**
  - For normal use: nitrile rubber: 1 hour
  - For direct contact with the chemical: butyl rubber: >4 hours

- **Eye protection:**
  - Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

  - **General Information**
    - **Appearance:** Fluid
    - **Form:** Fluid
    - **Color:** Colorless
    - **Odor:** Alcohol-like
    - **Odor threshold:** Not determined.
    - **pH-value:** Not determined.

  - **Change in condition**
    - **Melting point/Melting range:** -114.5 °C (-174.1 °F)
    - **Boiling point/Boiling range:** 78 °C (172.4 °F)

  - **Flash point:** 13 °C (55.4 °F)

  - **Flammability (solid, gaseous):** Not applicable.

  - **Ignition temperature:** 425 °C (797 °F)

  - **Decomposition temperature:** Not determined.

  - **Auto igniting:** Product is not selfigniting.

  - **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

  - **Explosion limits:**
    - **Lower:** 3.5 Vol %
    - **Upper:** 15 Vol %

  - **Vapor pressure at 20 °C (68 °F):** 45 hPa (33.8 mm Hg)

  - **Density at 20 °C (68 °F):** 0.80183 g/cm³ (6.69127 lbs/gal)
    - **Relative density:** Not determined.
    - **Vapor density:** Not determined.
    - **Evaporation rate:** Not determined.

  - **Solubility in / Miscibility with Water at 20 °C (68 °F):** 1,000 g/l

  - **Partition coefficient (n-octanol/water):** Not determined.

  - **Viscosity:**
    - **Dynamic:** Not determined.
10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**
  - **Thermal decomposition / conditions to be avoided**: No decomposition if used according to specifications.
  - **Possibility of hazardous reactions**: No dangerous reactions known.
  - **Conditions to avoid**: No further relevant information available.
  - **Incompatible materials**: No further relevant information available.
  - **Hazardous decomposition products**: No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity**:
    - **LD/LC50 values that are relevant for classification**:
      - **64-17-5 ethanol**
        - Oral LD50: >5,000 mg/kg (rat)
        - Inhalative LC50/4 h: 20,000 mg/L (rat)
  - **Primary irritant effect**:
    - **on the skin**: No irritant effect.
    - **on the eye**: Irritating effect.
    - **Sensitization**: No sensitizing effects known.
  - **Additional toxicological information**:
    The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

- **Carcinogenic categories**
  - **IARC (International Agency for Research on Cancer)**
    - 64-17-5 ethanol
  - **NTP (National Toxicology Program)**
    - None of the ingredients is listed.
  - **OSHA-Ca (Occupational Safety & Health Administration)**
    - None of the ingredients is listed.

12 Ecological information

- **Toxicity**
  - **Aquatic toxicity**: No further relevant information available.
Trade name: beta-Pinene Standard (1X2 mL)

- Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
- General notes:
  Water hazard class 1 (Self-assessment): slightly hazardous for water
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

* 14 Transport information

- UN-Number
  - DOT, IMDG, IATA: UN1993
- UN proper shipping name
  - DOT
  - IMDG: FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))
  - IATA: FLAMMABLE LIQUID, N.O.S. (ETHANOL)
- Transport hazard class(es)
  - DOT, IMDG, IATA
- Class: 3 Flammable liquids
- Label: 3
- Packing group
  - DOT, IMDG, IATA: II
- Environmental hazards:
  - Not applicable.
- Special precautions for user
  - Warning: Flammable liquids
- Danger code (KeMler):
  - 33
- EMS Number: F-E-S-E
### 15 Regulatory information

<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sara</strong></td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td><strong>Section 355</strong> (extremely hazardous substances):</td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td><strong>Section 313</strong> (Specific toxic chemical listings):</td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td><strong>TSCA (Toxic Substances Control Act):</strong></td>
<td>64-17-5 ethanol</td>
</tr>
<tr>
<td><strong>TSCA new (21st Century Act): (Substances not listed)</strong></td>
<td>19902-08-0 beta-pinene</td>
</tr>
<tr>
<td><strong>Proposition 65</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Chemicals known to cause cancer:</strong></td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td><strong>Chemicals known to cause reproductive toxicity for females:</strong></td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td><strong>Chemicals known to cause reproductive toxicity for males:</strong></td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td><strong>Chemicals known to cause developmental toxicity:</strong></td>
<td>64-17-5 ethanol</td>
</tr>
</tbody>
</table>

### Carcinogenic categories

<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EPA (Environmental Protection Agency)</strong></td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td><strong>TLV (Threshold Limit Value established by ACGIH)</strong></td>
<td>64-17-5 ethanol</td>
</tr>
</tbody>
</table>
Trade name: beta-Pinene Standard (1X2 mL)

- NIOSH-Ca (National Institute for Occupational Safety and Health)
  - None of the ingredients is listed.

- National regulations:
  - Information about limitation of use:
    - Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
    - Exceptions can be made by the authorities in certain cases.
  - Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- Department issuing SDS: Document Control / Regulatory
- Contact: regulatory@ultrasci.com
- Date of preparation / last revision 03/30/2019 / 2
- Abbreviations and acronyms:
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - Flam. Liq. 2: Flammable liquids – Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  - Carc. 1A: Carcinogenicity – Category 1A
  - * Data compared to the previous version altered.