1 Identification of the substance/mixture and of the company/undertaking

- Product identifier
  - Trade name: Pyridine (as N), 1000 ug/L (1X2 mL)
  - Part number: PANAL0228-6
  - Relevant identified uses of the substance or mixture and uses advised against
    Reagents and Standards for Analytical Chemical Laboratory Use

- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    Agilent Technologies Manufacturing GmbH & Co. KG
    Hewlett-Packard-Str.8
    76337 Waldbronn
    Germany

- Further information obtainable from:
  - Telephone: 0800 603 1000
  - pdl-msds_author@agilent.com
  - Emergency telephone number: CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- Classification of the substance or mixture
  - Classification according to Regulation (EC) No 1272/2008

  GHS02 flame
  Flam. Liq. 2 H225 Highly flammable liquid and vapour.

  GHS08 health hazard
  Repr. 2 H361d Suspected of damaging the unborn child.
  STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
  Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

  GHS07
  Skin Irrit. 2 H315 Causes skin irritation.
  STOT SE 3 H336 May cause drowsiness or dizziness.

- Label elements

- Labelling according to Regulation (EC) No 1272/2008
  The product is classified and labelled according to the CLP regulation.

- Hazard pictograms

  GHS02 GHS07 GHS08

- Signal word Danger
Trade name: Pyridine (as N), 1000 ug/L (1X2 mL)

· **Hazard-determining components of labelling:**
  - toluene

· **Hazard statements**
  - H225 Highly flammable liquid and vapour.
  - H315 Causes skin irritation.
  - H361d Suspected of damaging the unborn child.
  - H336 May cause drowsiness or dizziness.
  - H373 May cause damage to organs through prolonged or repeated exposure.
  - H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**
  - P101 If medical advice is needed, have product container or label at hand.
  - P102 Keep out of reach of children.
  - P201 Obtain special instructions before use.
  - P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P240 Ground/bond container and receiving equipment.
  - P241 Use explosion-proof electrical/ventilating/lighting equipment.
  - P242 Use only non-sparking tools.
  - P243 Take precautionary measures against static discharge.
  - P260 Do not breathe dust/fume/gas/mist/vapours/spray.
  - P264 Wash thoroughly after handling.
  - P271 Use only outdoors or in a well-ventilated area.
  - P280 Wear protective gloves/protective clothing/eye protection/face protection.
  - P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
  - P321 Specific treatment (see on this label).
  - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - P308+P313 IF exposed or concerned: Get medical advice/attention.
  - P312 Call a POISON CENTER/doctor if you feel unwell.
  - P314 Get medical advice/attention if you feel unwell.
  - P362+P364 Take off contaminated clothing and wash it before reuse.
  - P332+P313 If skin irritation occurs: Get medical advice/attention.
  - P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
  - P403+P233 Store in a well-ventilated place. Keep container tightly closed.
  - P403+P235 Store in a well-ventilated place. Keep cool.
  - P405 Store locked up.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

* **3 Composition/information on ingredients**

· **Chemical characterisation:** Mixtures
· **Description:** Mixture of substances listed below with nonhazardous additions.
4 First aid measures

· Description of first aid measures
· General information:
  Immediately remove any clothing soiled by the product.
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· After inhalation: In case of unconsciousness place patient stably in side position for transportation.
· After skin contact: Immediately wash with water and soap and rinse thoroughly.
· After eye contact: Rinse opened eye for several minutes under running water.
· 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 Firefighting measures

· Extinguishing media
· Suitable extinguishing agents:
  CO2, 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
  During heating or in case of fire poisonous gases are produced.
· Advice for firefighters
· Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures
  Mount respiratory protective device.
  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.
贸易名称: Pyridine (as N), 1000 ug/L (1X2 mL)

见第13节以获取处置信息。

* 7 Handling and storage

- Handling:
- Precautions for safe handling:
  - 确保工作场所通风良好。
  - 开启并小心处理容器。
  - 防止形成气溶胶。
- Information about fire - and explosion protection:
  - 保持点火源远离 - 不要吸烟。
  - 保护免受静电的影响。
  - 保持呼吸防护设备可用。
- Conditions for safe storage, including any incompatibilities
  - Storage:
    - Requirements to be met by storerooms and receptacles: 存放于凉爽处。
    - Information about storage in one common storage facility: 不需要。
- Further information about storage conditions:
  - 保持容器紧密密封。
  - 存放在阴凉干燥的地方。
  - 储存于密闭容器中。

* 8 Exposure controls/personal protection

- Additional information about design of technical facilities: 无需进一步数据；请参见7。
- Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    - 108-88-3 toluene
      - WEL 短期值: 384 mg/m³, 100 ppm
      - 长期值: 191 mg/m³, 50 ppm
      - Sk
- Additional information: 制作期间使用的列表被用作基础。

- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      - 远离食物、饮料和饲料。
      - 立即去除受污染的衣物。
      - 用肥皂洗手。
      - 避免与皮肤接触。
      - 避免与眼睛和皮肤接触。
- Respiratory protection:
  - 当按Agilent仪器的预期用途使用该产品时，在正常的实验室条件下和标准的实践并未产生显著的空气污染，因此不需要呼吸保护。
  - 在紧急情况下，如果需要呼吸器，使用NIOSH或等效的批准设备，带有适用的有机或酸气过滤器。
9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - Form: Fluid
      - Colour: Colourless
      - Odour: Aromatic
      - Odour threshold: Not determined.
    - **pH-value:** Not determined.
  - **Change in condition**
    - **Melting point/freezing point:** -93 °C
    - **Initial boiling point and boiling range:** 110 °C
  - **Flash point:** 4 °C
  - **Flammability (solid, gas):** Not applicable.
  - **Ignition temperature:** 535 °C
  - **Decomposition temperature:** Not determined.
  - **Auto-ignition temperature:** Product is not selfigniting.
  - **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
  - **Explosion limits:**
    - Lower: 1.2 Vol %
    - Upper: 7 Vol %
  - **Vapour pressure at 20 °C:** 29.1 hPa
  - **Density at 20 °C:** 0.87 g/cm³
  - **Relative density** Not determined.
  - **Vapour density** Not determined.
48.1.26

· Evaporation rate: Not determined.

· Solubility in / Miscibility with water at 15 °C: 0.5 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:
  Dynamic: Not determined.
  Kinematic: Not determined.

· Solvent content:
  Organic solvents: 100.0 %
  VOC (EC): 100.00 %

· Other information: No further relevant information available.

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: Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>108-88-3 toluene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
</tr>
<tr>
<td>Dermal LD50</td>
</tr>
<tr>
<td>Inhalative LC50/4h</td>
</tr>
<tr>
<td>5,580 mg/kg (rat)</td>
</tr>
<tr>
<td>12,124 mg/kg (rabbit)</td>
</tr>
<tr>
<td>5,320 mg/L (mouse)</td>
</tr>
<tr>
<td>28.1 mg/L (rat)</td>
</tr>
</tbody>
</table>

· Primary irritant effect: Causes skin irritation.

· Serious eye damage/irritation: Based on available data, the classification criteria are not met.

· Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

· Germ cell mutagenicity: Based on available data, the classification criteria are not met.

· Carcinogenicity: Based on available data, the classification criteria are not met.

· Reproductive toxicity
  Suspected of damaging the unborn child.

· STOT-single exposure
  May cause drowsiness or dizziness.

· STOT-repeated exposure
  May cause damage to organs through prolonged or repeated exposure.
12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Behaviour 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 2 (German Regulation) (Self-assessment): hazardous for water
    Do not allow product to reach ground water, water course or sewage system.
    Danger to drinking water if even small quantities leak into the ground.
  - 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 together with household garbage. Do not allow product to reach sewage system.

- European waste catalogue
  - HP 3: Flammable
  - HP 4: Irritant - skin irritation and eye damage
  - HP 5: Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
  - HP 10: Toxic for reproduction

- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
- ADR, IMDG, IATA
  UN1294

- UN proper shipping name
- ADR
  1294 TOLUENE solution
- IMDG, IATA
  TOLUENE solution
48.1.26

· Transport hazard class(es)
  · ADR, IMDG, IATA

  · Class
  · Label
  · 3 Flammable liquids.
  · 3

· Packing group
  · ADR, IMDG, IATA
  · II

· Environmental hazards:
  · Not applicable.

· Special precautions for user
  · Warning: Flammable liquids.
  · Danger code (Kemler):
  · 33
  · EMS Number:
  · F-E,S-D
  · Stowage Category
  · B

· Transport in bulk according to Annex II of Marpol and the IBC Code
  · Not applicable.

· Transport/Additional information:

  · ADR
  · Limited quantities (LQ)
  · 1L
  · Excepted quantities (EQ)
  · Code: E2
  · Maximum net quantity per inner packaging: 30 ml
  · Maximum net quantity per outer packaging: 500 ml

  · Transport category
  · 2
  · Tunnel restriction code
  · D/E

  · IMDG
  · Limited quantities (LQ)
  · 1L
  · Excepted quantities (EQ)
  · Code: E2
  · Maximum net quantity per inner packaging: 30 ml
  · Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":
  · UN 1294 TOLUENE SOLUTION, 3, II

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
  · Directive 2012/18/EU
  · Named dangerous substances - ANNEX I None of the ingredients is listed.
  · Seveso category P5c FLAMMABLE LIQUIDS
  · Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
  · Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
  · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 48
  · 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.

· Relevant phrases
  H225 Highly flammable liquid and vapour.
  H304 May be fatal if swallowed and enters airways.
  H315 Causes skin irritation.
  H336 May cause drowsiness or dizziness.
  H361d Suspected of damaging the unborn child.
  H373 May cause damage to organs through prolonged or repeated exposure.

· Department issuing SDS: Document Control / Regulatory
· Contact: regulatory@ultrasci.com

· 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
  IATA: International Air Transport Association
  GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  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)
  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
  Flam. Liq. 2: Flammable liquids – Category 2
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Repr. 2: Reproductive toxicity – Category 2
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
  Asp. Tox. 1: Aspiration hazard – Category 1

· * Data compared to the previous version altered.