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

- Product identifier
  - Trade name: Custom Standard (1X1 mL)
  - Part number: CUS-25123
  - 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.

GHS06 skull and crossbones
Acute Tox. 3 H331 Toxic if inhaled.

GHS08 health hazard
STOT SE 1 H370 Causes damage to organs.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

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

- Hazard pictograms

GHS02 GHS06 GHS08

- Signal word Danger

- Hazard-determining components of labelling:
  methanol
Trade name: Custom Standard (1X1 mL)

pentachlorophenol
DNOC
2,4-dinitrophenol

- **Hazard statements**
  - **H225** Highly flammable liquid and vapour.
  - **H331** Toxic if inhaled.
  - **H370** Causes damage to organs.
  - **H412** Harmful to aquatic life with long lasting effects.

- **Precautionary statements**
  - **P101** If medical advice is needed, have product container or label at hand.
  - **P102** Keep out of reach of children.
  - **P103** Read label 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.
  - **P270** Do not eat, drink or smoke when using this product.
  - **P271** Use only outdoors or in a well-ventilated area.
  - **P273** Avoid release to the environment.
  - **P280** Wear protective gloves/protective clothing/eye protection/face protection.
  - **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+P311** IF exposed or concerned: Call a POISON CENTER/doctor.
  - **P321** Specific treatment (see on this label).
  - **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.
  - **P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Additional information:**
  - Contains DNOC. May produce an allergic reaction.

- **Other hazards**
  - **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.
  Remove breathing equipment only after contaminated clothing have been completely removed.
  In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
  Supply fresh air or oxygen; call for doctor.
  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. Then 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 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 product to reach sewage system or any water course.
  Inform respective authorities in case of seepage into water course or sewage system.
  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.

7 Handling and storage

- **Handling:**
  - **Precautions for safe handling**
    Ensure good ventilation/exhaustion at the workplace.
    Open and handle receptacle with care.
    Prevent formation of aerosols.
  - **Information about fire - and explosion protection:**
    Keep ignition sources away - Do not smoke.
    Protect against electrostatic charges.
    Keep respiratory protective device available.

- **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - **Requirements to be met by storerooms and receptacles:** Store in a cool location.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:**
      Keep container tightly sealed.
      Store in cool, dry conditions in well sealed receptacles.
  - **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

- **Control parameters**

<table>
<thead>
<tr>
<th>Ingredients with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>67-56-1 methanol</strong></td>
</tr>
<tr>
<td><strong>WEL</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Trade name: Custom Standard (1X1 mL)

· Additional information: The lists valid during the making 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.

· Respiratory protection:
  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 11-13mil
  thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct
  contact of the chemical, butyl rubber gloves are recommended 12-15mil 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

· 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:
  Form: Fluid
  Colour: Colourless

· Odour:
  Odour threshold: Not determined.

· pH-value:
  Not determined.

· Change in condition
  Melting point/freezing point: -98 °C
  Initial boiling point and boiling range: 64.7 °C

· Flash point:
  9 °C

· Flammability (solid, gas):
  Not applicable.
Ignition temperature: 455 °C
Decomposition temperature: Not determined.
Auto-ignition temperature: Product is not self-igniting.

Explosion properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Explosion limits:
- Lower: 5.5 Vol %
- Upper: 44 Vol %

Vapour pressure at 20 °C: 100 hPa
Density at 20 °C: 0.8 g/cm³
Relative density: Not determined.
Vapour density: Not determined.
Evaporation rate: Not determined.

Solubility in / Miscibility with water: Not miscible or difficult to mix.
Partition coefficient: n-octanol/water: Not determined.
Viscosity:
- Dynamic: Not determined.
- Kinematic: Not determined.
Solvent content:
- Organic solvents: 99.5 %
- VOC (EC): 99.49 %
Solids content: 0.0 %
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
  Toxic if inhaled.
Trade name: Custom Standard (1X1 mL)

48.1.26

· LD/LC50 values relevant for classification:

**ATE (Acute Toxicity Estimates)**

<table>
<thead>
<tr>
<th>Mode</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>3,710 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>42,194 mg/kg</td>
</tr>
<tr>
<td>Inhalative</td>
<td>2.99 mg/L</td>
</tr>
</tbody>
</table>

**67-56-1 methanol**

<table>
<thead>
<tr>
<th>Mode</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>5,628 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>15,800 mg/kg (rabbit)</td>
</tr>
</tbody>
</table>

**87-86-5 pentachlorophenol**

<table>
<thead>
<tr>
<th>Mode</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>27 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>96 mg/kg (rat)</td>
</tr>
<tr>
<td>Inhalative</td>
<td>355 mg/L (rat)</td>
</tr>
</tbody>
</table>

**51-28-5 2,4-dinitrophenol**

<table>
<thead>
<tr>
<th>Mode</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>30 mg/kg (rat)</td>
</tr>
</tbody>
</table>

**534-52-1 DNOC**

<table>
<thead>
<tr>
<th>Mode</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>7 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>200 mg/kg (rat)</td>
</tr>
<tr>
<td></td>
<td>1,000 mg/kg (rabbit)</td>
</tr>
</tbody>
</table>

· Primary irritant effect:

· Skin corrosion/irritation Based on available data, the classification criteria are not met.

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

· STOT-single exposure

Causes damage to organs.

· STOT-repeated exposure Based on available data, the classification criteria are not met.

· Aspiration hazard Based on available data, the classification criteria are not met.

### 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.

· Ecotoxic effects:

· Remark: Harmful to fish

· 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.
48.1.26 Harmful to aquatic organisms

- 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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP 3</td>
<td>Flammable</td>
</tr>
<tr>
<td>HP 5</td>
<td>Specific Target Organ Toxicity (STOT)/Aspiration Toxicity</td>
</tr>
<tr>
<td>HP 6</td>
<td>Acute Toxicity</td>
</tr>
<tr>
<td>HP 14</td>
<td>Ecotoxic</td>
</tr>
</tbody>
</table>

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

14 Transport information

- Not Regulated, De minimus Quantities

- UN-Number
  - ADR, IMDG, IATA: UN1230

- UN proper shipping name
  - ADR: 1230 METHANOL
  - IMDG, IATA: METHANOL

- Transport hazard class(es)

  - ADR
    - Class: 3 Flammable liquids.
    - Label: 3+6.1
  - IMDG
    - Class: 3 Flammable liquids.

(Contd. on page 9)
### Trade name: Custom Standard (1X1 mL)

- **Label** 3/6.1
- **IATA**
  - **Class**
  - **Label**
  - **Packing group**
  - **ADR, IMDG, IATA** II

**Environmental hazards:** Not applicable.

**Special precautions for user**
- **Warning:** Flammable liquids.
- **Danger code (Kemler):** 336
- **EMS Number:** F-E,S-D
- **Stowage Category** B
- **Stowage Code** SW2 Clear of living quarters.

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

**Transport/Additional information:**
- **ADR**
  - **Limited quantities (LQ)** 1L Code: E2
  - **Excepted quantities (EQ)**
    - **Transport category** 2
    - **Tunnel restriction code** D/E
- **IMDG**
  - **Limited quantities (LQ)** 1L Code: E2
  - **Excepted quantities (EQ)**
    - **Maximum net quantity per inner packaging:** 30 ml
    - **Maximum net quantity per outer packaging:** 500 ml
- **UN "Model Regulation":** UN 1230 METHANOL, 3 (6.1), 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**
    - **H2 ACUTE TOXIC**
    - **P5c FLAMMABLE LIQUIDS**
  - **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
  - **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
  - **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 22, 69
Trade name: Custom Standard (1X1 mL)

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### Regulation (EU) No 649/2012

- 87-86-5 pentachlorophenol
- 534-52-1 DNOC

### Annex I Part 1

- Annex I Part 1
- Annex I Part 3

### Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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### 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.
H300 Fatal if swallowed.
H301 Toxic if swallowed.
H310 Fatal in contact with skin.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H370 Causes damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

#### 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
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 1: Acute toxicity – Category 1
- Acute Tox. 2: Acute toxicity – Category 2
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Muta. 2: Germ cell mutagenicity – Category 2
- Care. 2: Carcinogenicity – Category 2
- STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

(Contd. on page 11)
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3