1 Identification

- Product identifier
- Trade name: Custom Standard (1X1 mL)
- Part number: CUS-15366
- 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-msds_author@agilent.com
- Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard(s) identification

- Classification of the substance or mixture
  - GHS08 Health hazard
  - STOT RE 2 H373  May cause damage to organs through prolonged or repeated exposure.

- Label elements
  - GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    - GHS08

- Signal word: Warning
- Hazard-determining components of labeling:
  - 2,2'-oxybisethanol
- Hazard statements
  - May cause damage to organs through prolonged or repeated exposure.
- Precautionary statements
  - Do not breathe dust/fume/gas/mist/vapors/spray.
  - Get medical advice/attention if you feel unwell.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.
- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 0
    - Fire = 0
    - Reactivity = 0
## 3 Composition/information on ingredients

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

### Dangerous components:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1 ethanediol</td>
<td>1.0%</td>
</tr>
<tr>
<td>111-46-6 2,2'-oxybisethanol</td>
<td>1.0%</td>
</tr>
<tr>
<td>112-27-6 triethylene glycol</td>
<td>1.0%</td>
</tr>
<tr>
<td>57-55-6 Propylene glycol</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

## 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **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.
- **Environmental precautions**: Dilute with plenty of water. 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**

- **PAC-1**:
  - 107-21-1 ethanediol 30 ppm
  - 111-46-6 2,2'-oxybisethanol 6.9 ppm
  - 112-27-6 triethylene glycol 130 mg/m³
  - 57-55-6 Propylene glycol 30 mg/m³

- **PAC-2**:
  - 107-21-1 ethanediol 150 ppm
  - 111-46-6 2,2'-oxybisethanol 140 ppm
  - 112-27-6 triethylene glycol 1,400 mg/m³
  - 57-55-6 Propylene glycol 1,300 mg/m³

- **PAC-3**:
  - 107-21-1 ethanediol 900 ppm
  - 111-46-6 2,2'-oxybisethanol 860 ppm
  - 112-27-6 triethylene glycol 4,400 mg/m³
  - 57-55-6 Propylene glycol 7,900 mg/m³

7 Handling and storage

- **Handling**: Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.
- **Information about protection against explosions and fires**: Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**: No special requirements.
- **Information about storage in one common storage facility**: Not required.
- **Further information about storage conditions**: None.
- **Specific end use(s)** No further relevant information available.
8 Exposure controls/personal protection

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

· Control parameters

· Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Component</th>
<th>TLV Short-term</th>
<th>Long-term (vapor fraction: inh. fraction, aerosol only)</th>
<th>WEEL Long-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1 ethanediol</td>
<td>10** mg/m³, 50* ppm</td>
<td>25* ppm</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>111-46-6 2,2'-oxybisethanol</td>
<td>10 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57-55-6 Propylene glycol</td>
<td>10 mg/m³</td>
<td></td>
<td></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.
  Wash hands before breaks and at the end of work.
  Store protective clothing separately.

· 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

· 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
    - **Color:** Colorless
    - **Odor:** Odorless
    - **Odor threshold:** Not determined.
  - **pH-value:** Not determined.
  - **Change in condition**
    - **Melting point/Melting range:** 0 °C (32 °F)
    - **Boiling point/Boiling range:** 100 °C (212 °F)
  - **Flash point:** Not applicable.
  - **Flammability (solid, gaseous):** Not applicable.
  - **Decomposition temperature:** Not determined.
  - **Auto igniting:** Product is not selfigniting.
  - **Danger of explosion:** Product does not present an explosion hazard.
  - **Explosion limits:**
    - **Lower:** Not determined.
    - **Upper:** Not determined.
  - **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)
  - **Density at 20 °C (68 °F):** 1.0036 g/cm³ (8.37504 lbs/gal)
  - **Relative density**
    - **Vapor density:** Not determined.
    - **Evaporation rate:** Not determined.
  - **Solubility in / Miscibility with Water:** Fully miscible.
  - **Partition coefficient (n-octanol/water):** Not determined.
  - **Viscosity:**
    - **Dynamic at 20 °C (68 °F):** 0.952 mPas
    - **Kinematic:** Not determined.
  - **Solvent content:**
    - **Organic solvents:** 3.0 %
    - **Water:** 96.0 %
    - **VOC content:** 3.00 %
      - 30.1 g/l / 0.25 lb/gal
  - **Solids content:** 0.0 %
  - **Other information**
    - No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
Trade name: Custom Standard (1X1 mL)

- 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:
    - ATE (Acute Toxicity Estimate)
      - Oral LD50 >200,000 mg/kg (rat)
  
  107-21-1 ethanediol
    - Oral LD50 >2,000 mg/kg (rat)
    - Dermal LD50 9,530 mg/kg (rabbit)
  
  111-46-6 2,2’-oxybisethanol
    - Oral LD50 12,565 mg/kg (rat)
    - Dermal LD50 11,890 mg/kg (rabbit)
  
  112-27-6 triethylene glycol
    - Oral LD50 17,000 mg/kg (rat)
  
  57-55-6 Propylene glycol
    - Oral LD50 20,800 mg/kg (rat)
    - Dermal LD50 20,800 mg/kg (rabbit)

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
  - Additional toxicological information:
    - The product shows the following dangers according to internally approved calculation methods for preparations:
      - Carcinogenic categories
        - IARC (International Agency for Research on Cancer)
          - None of the ingredients is listed.
        - 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: Custom Standard (1X1 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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- **Not Regulated, De minimus Quantities** -
- **UN-Number**
  - DOT, ADN, IMDG, IATA not regulated
- **UN proper shipping name**
  - DOT, ADN, IMDG, IATA not regulated
- **Transport hazard class(es)**
  - DOT, ADN, IMDG, IATA not regulated
- **Packing group**
  - DOT, IMDG, IATA not regulated
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation"** not regulated

(Contd. on page 8)
15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
  · Sara
    · Section 355 (extremely hazardous substances):
      None of the ingredients is listed.
    · Section 313 (Specific toxic chemical listings):
      107-21-1 ethanediol
    · TSCA (Toxic Substances Control Act):
      All ingredients are listed.
  · Proposition 65
    · Chemicals known to cause cancer:
      None of the ingredients is listed.
    · Chemicals known to cause reproductive toxicity for females:
      None of the ingredients is listed.
    · Chemicals known to cause reproductive toxicity for males:
      None of the ingredients is listed.
    · Chemicals known to cause developmental toxicity:
      107-21-1 ethanediol
  · Carcinogenic categories
    · EPA (Environmental Protection Agency)
      None of the ingredients is listed.
    · TLV (Threshold Limit Value established by ACGIH)
      107-21-1 ethanediol
    · NIOSH-Ca (National Institute for Occupational Safety and Health)
      None of the ingredients is listed.
  · 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.

· Date of preparation / last revision 04/12/2019 / 1
· 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
Trade name: Custom Standard (1X1 mL)

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
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

* Data compared to the previous version altered.