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

- **Product identifier**
- **Trade name:** Custom Standard
- **Part number:** CUS-5800
- **Application of the substance / the mixture** Laboratory chemicals

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** ULTRA Scientific, Inc.
    250 Smith Street
    North Kingstown, RI 02852
    USA

- **Information department:**
  - Telephone: (401) 294-9400
  - Fax: (401) 295-2300
  - E-mail: regulatory@ultrasci.com

- **Emergency telephone number:**
  - US: (800) 424-9300
  - Outside US: (703) 527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - GHS02 Flame
  - Flam. Liq. 2 H225 Highly flammable liquid and vapor.
  - GHS06 Skull and crossbones
  - Acute Tox. 3 H331 Toxic if inhaled.
  - GHS08 Health hazard
  - Repr. 2 H361 Suspected of damaging fertility or the unborn child.

- **Hazard-determining components of labeling:**
  - methanol

- **Hazard statements**
  - Highly flammable liquid and vapor.
Trade name: Custom Standard

Toxic if inhaled.
Suspected of damaging fertility or the unborn child.
Causes damage to organs.

- **Precautionary statements**
  - Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  - Use explosion-proof electrical/ventilating/lighting/equipment.
  - Do not breathe dust/fume/gas/mist/vapors/spray.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Ground/bond container and receiving equipment.
  - Use only non-sparking tools.
  - Take precautionary measures against static discharge.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.
  - Use only outdoors or in a well-ventilated area.
  - Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - Specific treatment (see on this label).
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - IF exposed or concerned: Get medical advice/attention.
  - In case of fire: Use for extinction: CO2, powder or water spray.
  - Store locked up.
  - Store in a well-ventilated place. Keep container tightly closed.
  - Store in a well-ventilated place. Keep cool.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

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

- **HMIS-ratings (scale 0 - 4)**
  - Health = *3
  - 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:**
  - 67-56-1 methanol 98.483%
  - 2037-26-5 toluene-d8 0.253%

(Contd. of page 1)
4 First-aid measures

· Description of first aid measures
· General information:
  Immediately remove any clothing soiled by the product.
  Remove breathing apparatus 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 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: Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
· Environmental precautions: Prevent seepage into sewage system, workpits and cellars.
· 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:
    67-56-1 methanol 530 ppm
    2037-26-5 toluene-d8 67 ppm
    460-00-4 1-bromo-4-fluorobenzene 12 mg/m3

  · PAC-2:
    67-56-1 methanol 2,100 ppm
    2037-26-5 toluene-d8 560 ppm

(Contd. on page 4)
Trade name: Custom Standard

<table>
<thead>
<tr>
<th>PAC-3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1 methanol</td>
</tr>
<tr>
<td>2037-26-5 toluene-d8</td>
</tr>
<tr>
<td>460-00-4 1-bromo-4-fluorobenzene</td>
</tr>
</tbody>
</table>

| 460-00-4 1-bromo-4-fluorobenzene | 130 mg/m³ |

7 Handling and storage

- Handling:
  - Precautions for safe handling
    Ensure good ventilation/exhaustion at the workplace.
    Open and handle receptacle with care.
  - Information about protection against explosions and fires:
    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 receptacle 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 systems: No further data; see item 7.

- Control parameters
  - Components with limit values that require monitoring at the workplace:
    The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
    The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
    At this time, the remaining constituent has no known exposure limits.
    At this time, the other constituents have no known exposure limits.

67-56-1 methanol

| PEL | Long-term value: 260 mg/m³, 200 ppm |
| REL | Short-term value: 325 mg/m³, 250 ppm |
|     | Long-term value: 260 mg/m³, 200 ppm |
|     | Skin |
| TLV | Short-term value: 328 mg/m³, 250 ppm |
|     | Long-term value: 262 mg/m³, 200 ppm |
|     | Skin; BEI |

2037-26-5 toluene-d8

| TLV | Long-term value: 20 ppm |

(Contd. on page 5)
Trade name: Custom Standard

### Ingredients with biological limit values:

<table>
<thead>
<tr>
<th>Compound</th>
<th>BEI</th>
<th>Medium</th>
<th>Time</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1 methanol</td>
<td>15 mg/L</td>
<td>urine</td>
<td>end of shift</td>
<td>Methanol (background, nonspecific)</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.
- **Breathing equipment**:
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands**:
  - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
  - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
  - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
  - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection**:
  - Tightly sealed goggles

### Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance**:
  - Form: Fluid
  - Color: According to product specification
  - Odor: Characteristic
  - Odor threshold: Not determined.
- **pH-value**: Not determined.
- **Change in condition**
  - Melting point/Melting range: -98 °C (-144 °F)
  - Boiling point/Boiling range: Undetermined.
### 44.2.6

- **Flash point:** 9 °C (48 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:** 455 °C (851 °F)
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Explosion limits:**
  - Lower: 5.5 Vol %
  - Upper: 44 Vol %
- **Vapor pressure at 20 °C (68 °F):** 100 hPa (75 mm Hg)
- **Density at 20 °C (68 °F):** 0.8 g/cm³ (6.676 lbs/gal)
- **Relative density:** Not determined.
- **Vapor 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: 98.7 %
  - VOC content: 98.7 %
    - 987.4 g/l / 8.24 lb/gl
- **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:**
  - **LD/LC50 values that are relevant for classification:**
    - ATE (Acute Toxicity Estimates)
      - Inhalative LC50/4 h: 3.05 mg/L

(Contd. on page 7)
**Trade name:** Custom Standard

### 67-56-1 methanol

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50</th>
<th>Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>5628 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>15800 mg/kg (rabbit)</td>
<td></td>
</tr>
</tbody>
</table>

### 2037-26-5 toluene-d8

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50</th>
<th>Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>&gt;5580 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>12196 mg/kg (rabbit)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>12500 mg/L (rat)</td>
<td></td>
</tr>
</tbody>
</table>

- **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:
  - Toxic

- **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.
  - 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: Not known to be hazardous to water.
  - Results of PBT and vPvB assessment:
    - PBT: Not applicable.
    - vPvB: Not applicable.

### 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

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>DOT, IMDG, IATA</th>
<th>UN1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>DOT, IMDG, IATA</td>
<td>Flammable liquids, toxic, n.o.s. (Methanol)</td>
</tr>
<tr>
<td></td>
<td>DOT</td>
<td>FLAMMABLE LIQUID, TOXIC, N.O.S. (METHANOL)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>DOT</td>
<td>Class 3 Flammable liquids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Label 3, 6.1</td>
</tr>
<tr>
<td></td>
<td>IMDG</td>
<td>Class 3 Flammable liquids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Label 3/6.1</td>
</tr>
<tr>
<td></td>
<td>IATA</td>
<td>Class 3 Flammable liquids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Label 3 (6.1)</td>
</tr>
<tr>
<td>Packing group</td>
<td>DOT, IMDG, IATA</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>DOT, IMDG, IATA</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>DOT</td>
<td>Warning: Flammable liquids</td>
</tr>
<tr>
<td>Danger code (Kemler):</td>
<td>DOT</td>
<td>336</td>
</tr>
<tr>
<td>EMS Number:</td>
<td>DOT</td>
<td>F-E,S-D</td>
</tr>
<tr>
<td>Stowage Category</td>
<td>DOT</td>
<td>B</td>
</tr>
<tr>
<td>Stowage Code</td>
<td>DOT</td>
<td>SW2 Clear of living quarters.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>DOT</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport/Additional information:</td>
<td>DOT</td>
<td>On passenger aircraft/rail: 1 L</td>
</tr>
<tr>
<td></td>
<td>DOT</td>
<td>On cargo aircraft only: 60 L</td>
</tr>
</tbody>
</table>

(Contd. on page 9)
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 1992 FLAMMABLE LIQUIDS, TOXIC, N.O.S.
  (METHANOL), 3 (6.1), II

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):
    - 67-56-1 methanol

  - TSCA (Toxic Substances Control Act):
    - 67-56-1 methanol
    - 363-72-4 pentafluorobenzene
    - 460-00-4 1-bromo-4-fluorobenzene

  - 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:
      - 67-56-1 methanol

- Carcinogenic categories

  - EPA (Environmental Protection Agency)
    None of the ingredients is listed.

  - TLV (Threshold Limit Value established by ACGIH)
    None of the ingredients is listed.

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

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

- Hazard pictograms
  - GHS02
  - GHS06
  - GHS08

(Contd. of page 8)
· Signal word Danger

· Hazard-determining components of labeling:
  methanol

· Hazard statements
  Highly flammable liquid and vapor.
  Toxic if inhaled.
  Suspected of damaging fertility or the unborn child.
  Causes damage to organs.

· Precautionary statements
  Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  Use explosion-proof electrical/ventilating/lighting/equipment.
  Do not breathe dust/fume/gas/mist/vapors/spray.
  Wear protective gloves/protective clothing/eye protection/face protection.
  Ground/bond container and receiving equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  Specific treatment (see on this label).
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  IF exposed or concerned: Get medical advice/attention.
  In case of fire: Use for extinction: CO2, powder or water spray.
  Store locked up.
  Store in a well-ventilated place. Keep container tightly closed.
  Store in a well-ventilated place. Keep cool.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Document Control / Regulatory
· Contact: regulatory@ultrasci.com
· Date of preparation / last revision 04/03/2017 / -
· 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

(Contd. on page 11)
**Trade name: Custom Standard**

| NIOSH: National Institute for Occupational Safety |
| OSHA: Occupational Safety & Health               |
| TLV: Threshold Limit Value                       |
| PEL: Permissible Exposure Limit                  |
| REL: Recommended Exposure Limit                  |
| BEI: Biological Exposure Limit                   |
| Flam. Liq. 2: Flammable liquids – Category 2     |
| Acute Tox. 3: Acute toxicity – Category 3        |
| Repr. 2: Reproductive toxicity – Category 2      |
| STOT SE 1: Specific target organ toxicity (single exposure) – Category 1 |