1 Identification

- Product identifier
  - Trade name: Custom Standard
  - Part number: CUS-5061
- Application of the substance / the mixture Laboratory chemicals
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier: ULTRA Scientific, Inc.
    North Kingstown, RI  02852
    USA
  - Information department:
    Telephone: (401) 294-9400
    Fax: (401) 295-2300
    E-mail: regulatory@ultrasci.com
  - Emergency telephone number:
    US: +1-800-424-9300
    Outside US: +1-703-527-3887

2 Hazard(s) identification

- Classification of the substance or mixture
  - GHS02 Flame
    Flam. Liq. 2  H225  Highly flammable liquid and vapor.
  - GHS07
    Acute Tox. 4  H312  Harmful in contact with skin.
    Skin Irrit. 2  H315  Causes skin irritation.

- Label elements
  - GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    - GHS02
    - GHS07

- Signal word Danger
- Hazard-determining components of labeling:
  tert-butyl methyl ether
- Hazard statements
  Highly flammable liquid and vapor.
  Harmful in contact with skin.
  Causes skin irritation.
- Precautionary statements
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Keep container tightly closed.
Trade name: Custom Standard

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.
Call a poison center/doctor if you feel unwell.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO2, powder or water spray.
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 = 1
   Fire = 3
   Reactivity = 0

• HMIS-ratings (scale 0 - 4)
   HEALTH 1  Health = 1
   FIRE 3   Fire = 3
   REACTIVITY 0 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:
  1634-04-4 tert-butyl methyl ether 99.806%

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: 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.

(Contd. on page 3)
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). 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: | 1634-04-4 tert-butyl methyl ether | 50 ppm |
| PAC-2: | 1634-04-4 tert-butyl methyl ether | 570 ppm |
| PAC-3: | 1634-04-4 tert-butyl methyl ether | 5300* ppm |

7 Handling and storage

- Handling:  
  - Precautions for safe handling No special precautions are necessary if used correctly.
  - Information about protection against explosions and fires:  
    Keep ignition sources away - Do not smoke. Protect against electrostatic charges.
- 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.
Trade name: Custom Standard

- 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:
    | Component                  | TLV Long-term value |
    |---------------------------|--------------------|
    | 1634-04-4 tert-butyl methyl ether | 180 mg/m³, 50 ppm |

- 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.
      Avoid contact with the skin.
      Avoid contact with the eyes and skin.
  - Breathing equipment: Not required.
  - Protection of hands:
    - Protective gloves
      - 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

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Fluid
      - Color: Colorless
    - Odor: Characteristic
    - Odor threshold: Not determined.
    - pH-value: Not determined.
### Change in condition

- **Melting point/Melting range:** -108.6 °C (-163.5 °F)
- **Boiling point/Boiling range:** 55.2 °C (131.4 °F)

### Flash point:

- 0 °C (32 °F)

### Flammability (solid, gaseous):

- Not applicable.

### Ignition temperature:

- 460 °C (860 °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:** 1.6 Vol %
- **Upper:** 8.4 Vol %

### Vapor pressure at 20 °C (68 °F):

- 209.4 hPa (157.1 mm Hg)

### Density at 20 °C (68 °F):

- 0.74 g/cm³ (6.1753 lbs/gal)

### Relative density:

- Not determined.

### Vapor density:

- Not determined.

### Evaporation rate:

- Not determined.

### Solubility in / Miscibility with Water at 25 °C (77 °F):

- 51 g/l

### Partition coefficient (n-octanol/water):

- Not determined.

### Viscosity:

- **Dynamic at 20 °C (68 °F):** 0.27 mPas
- **Kinematic:** Not determined.

### Solvent content:

- **Organic solvents:** 99.8 %
- **VOC content:** 99.81 %
- **998.1 g/l / 8.33 lb/gl**

### Solids content:

- 0.2 %

### 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 Estimate)**
        - Oral: LD50 4,008 mg/kg (rat)
        - Dermal: LD50 1,002 mg/kg (rabbit)
      - **1634-04-4 tert-butyl methyl ether**
        - Oral: LD50 4,000 mg/kg (rat)
        - Dermal: LD50 1,000 mg/kg (rabbit)
        - Inhalative: LC50/4 h 23,576 mg/L (rat)
  - **Primary irritant effect:**
    - **on the skin:** Irritant to skin and mucous membranes.
    - **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:
    - Harmful
    - Irritant
  - **Carcinogenic categories**
    - **IARC (International Agency for Research on Cancer)**
      - 1634-04-4 tert-butyl methyl ether 3
    - **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:**
      - 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 UN2350

- **UN proper shipping name**
  - DOT Butyl methyl ether solution
  - IMDG, IATA BUTYL METHYL ETHER solution

- **Transport hazard class(es)**
  - DOT
    - **Class** 3 Flammable liquids
    - **Label** 3
  - 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-D
- **Stowage Category** B

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

- **Transport/Additional information:**
  - DOT
  - **Quantity limitations**
    - On passenger aircraft/rail: 5 L
    - On cargo aircraft only: 60 L
Safety Data Sheet
acc. to OSHA HCS

Printing date 07/11/2018  Version Number 1  Reviewed on 07/11/2018

 Trade name: Custom Standard

- 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 2350 BUTYL METHYL ETHER SOLUTION, 3, 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):
    1634-04-4 tert-butyl methyl ether
    51338-27-3 methyl 2-(4-(2,4-dichlorophenoxy)phenoxy)propionate

  - TSCA (Toxic Substances Control Act):
    1634-04-4 tert-butyl methyl ether
    17640-02-7 dalapon methyl ester

  - Proposition 65

    - Chemicals known to cause cancer:
      51338-27-3 methyl 2-(4-(2,4-dichlorophenoxy)phenoxy)propionate

    - 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:
      51338-27-3 methyl 2-(4-(2,4-dichlorophenoxy)phenoxy)propionate

  - Carcinogenic categories

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

    - TLV (Threshold Limit Value established by ACGIH)
      1634-04-4 tert-butyl methyl ether A3

    - 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  GHS07

    - Signal word Danger
Trade name: Custom Standard

- **Hazard-determining components of labeling:**
  tert-butyl methyl ether

**Hazard statements**
- Highly flammable liquid and vapor.
- Harmful in contact with skin.
- Causes skin irritation.

**Precautionary statements**
- 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.
- Call a poison center/doctor if you feel unwell.
- Specific treatment (see on this label).
- Take off contaminated clothing and wash it before reuse.
- If skin irritation occurs: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- 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.

- **Date of preparation / last revision** 07/11/2018 / -

- **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
  Acute Tox. 4: Acute toxicity – Category 4
  Skin Irrit. 2: Skin corrosion/irritation – Category 2