1 Identification

· Product identifier
· Trade name: Custom Standard
· Part number: DK-99067
· 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.
  · GHS08 Health hazard
    Repr. 1 H360 May damage fertility or the unborn child.
  · GHS07
    Eye Irrit. 2A H319 Causes serious eye irritation.
    STOT SE 3 H336 May cause drowsiness or dizziness.

· Label elements
· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
· Hazard pictograms
  · GHS02 GHS07 GHS08

· Signal word Danger
· Hazard-determining components of labeling:
  ethyl acetate
  Di-n-butylphthalate-d4
  Bis(2-ethylhexyl)phthalate-3,4,5,6-d4

(Contd. on page 2)
· Hazard statements
  Highly flammable liquid and vapor.
  Causes serious eye irritation.
  May damage fertility or the unborn child.
  May cause drowsiness or dizziness.

· Precautionary statements
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  Ground/bond container and receiving equipment.
  Use explosion-proof electrical/ventilating/lighting/equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Avoid breathing dust/fume/gas/mist/vapors/spray
  Wash thoroughly after handling.
  Use only outdoors or in a well-ventilated area.
  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.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  IF in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  IF exposed or concerned: Get medical advice/attention.
  Call a POISON CENTER/doctor if you feel unwell.
  IF eye irritation persists: Get medical advice/attention.
  In case of fire: Use for extinguition: CO2, powder or water spray.
  Store in a well-ventilated place. Keep container tightly closed.
  Store in a well-ventilated place. Keep cool.
  Store locked up.
  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
    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:
  141-78-6  ethyl acetate  99.667%
4 First-aid measures

- Description of first aid measures
- 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. If symptoms persist, 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: 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).
  - 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:
    - 141-78-6 ethyl acetate 1,200 ppm
  - PAC-2:
    - 141-78-6 ethyl acetate 1,700 ppm
  - PAC-3:
    - 141-78-6 ethyl acetate 10000 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.
· 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.
  At this time, the other constituents have no known exposure limits.

141-78-6 ethyl acetate

<table>
<thead>
<tr>
<th></th>
<th>Long-term value: 1400 mg/m³, 400 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td></td>
</tr>
<tr>
<td>REL</td>
<td></td>
</tr>
<tr>
<td>TLV</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.
  Immediately remove all soiled and contaminated clothing.
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes.
  Avoid contact with the eyes and skin.
· Breathing equipment: Not required.
· 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.
### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Fluid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Fruit-like</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>pH-value</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>-83.57°C (°F)</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>77-78°C (°F)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>-4°C (°F)</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td>460°C (°F)</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Auto igniting</strong></td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td><strong>Danger of explosion</strong></td>
<td>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</td>
</tr>
<tr>
<td><strong>Explosion limits</strong></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>2.1 Vol %</td>
</tr>
<tr>
<td>Upper</td>
<td>11.5 Vol %</td>
</tr>
<tr>
<td><strong>Vapor pressure at 20°C (68 °F):</strong></td>
<td>75 hPa (mm Hg)</td>
</tr>
<tr>
<td><strong>Density at 20°C (68 °F):</strong></td>
<td>0.9 g/cm³ (lbs/gal)</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with Water at 20°C (68 °F):</strong></td>
<td>79 g/l</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic at 20°C (68 °F):</td>
<td>0.44 mPas</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solvent content</strong></td>
<td></td>
</tr>
<tr>
<td>Organic solvents</td>
<td>99.7 %</td>
</tr>
</tbody>
</table>
Trade name: Custom Standard

VOC content: 99.67 %
996.7 g/l / 8.32 lb/gl
Solids content: 0.0 %
Other information

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)
    Inhalative LC50/4 h 1,605 mg/L (rat)
  141-78-6 ethyl acetate
    Oral LD50 5,620 mg/kg (rabbit)
    Inhalative LC50/4 h 1,600 mg/L (rat)
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
- 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.
45.2.5 · 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 UN1173
· UN proper shipping name
  · DOT Ethyl acetate mixture
  · IMDG, IATA ETHYL ACETATE mixture
· 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

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 1173 ETHYL ACETATE MIXTURE, 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):
  None of the ingredients is listed.

- TSCA (Toxic Substances Control Act):
  141-78-6 ethyl acetate

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:
  None of the ingredients is listed.

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
- GHS07
- GHS08

· Signal word Danger

· Hazard-determining components of labeling:
  ethyl acetate
  Di-n-butylphthalate-d4
  Bis(2-ethylhexyl)phthalate-3,4,5,6-d4

· Hazard statements
  Highly flammable liquid and vapor.
  Causes serious eye irritation.
  May damage fertility or the unborn child.
  May cause drowsiness or dizziness.

· Precautionary statements
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  Ground/bond container and receiving equipment.
  Use explosion-proof electrical/ventilating/lighting/equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Avoid breathing dust/fume/gas/mist/vapors/spray
  Wash thoroughly after handling.
  Use only outdoors or in a well-ventilated area.
  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.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  IF in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  IF exposed or concerned: Get medical advice/attention.
  Call a POISON CENTER/doctor if you feel unwell.
  If eye irritation persists: Get medical advice/attention.
  In case of fire: Use for extinction: CO2, powder or water spray.
  Store in a well-ventilated place. Keep container tightly closed.
  Store in a well-ventilated place. Keep cool.
  Store locked up.
  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 09/08/2017 / -

· 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

(Contd. on page 10)
Trade name: Custom Standard

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (division of the American Chemical Society)</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association (USA)</td>
</tr>
<tr>
<td>HMIS</td>
<td>Hazardous Materials Identification System (USA)</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds (USA, EU)</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>REL</td>
<td>Recommended Exposure Limit</td>
</tr>
<tr>
<td>Flam. Liq. 2</td>
<td>Flammable liquids – Category 2</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation – Category 2A</td>
</tr>
<tr>
<td>Repr. 1</td>
<td>Reproductive toxicity – Category 1</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) – Category 3</td>
</tr>
</tbody>
</table>