1 Identification

· Product identifier
  · Trade name: Custom Standard
  · Part number: DK-101340
  · 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
  Carc. 1B H350 May cause cancer.

  GHS07
  Skin Irrit. 2 H315 Causes skin irritation.
  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:
  dichloromethane
  acetone

(Contd. on page 2)
Trade name: Custom Standard

- **Hazard statements**
  - Highly flammable liquid and vapor.
  - Causes skin irritation.
  - Causes serious eye irritation.
  - May cause cancer.
  - 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.
  - Specific treatment (see on this label).
  - If skin irritation occurs: Get medical advice/attention.
  - If eye irritation persists: Get medical advice/attention.
  - Take off contaminated clothing and wash it before reuse.
  - 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.

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 2
    - Fire = 3
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - HEALTH 2
    - 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:
  - 75-09-2 dichloromethane 62.281%
  - 67-64-1 acetone 37.152%

4 First-aid measures

- Description of first aid measures
- 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. 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:
    - 75-09-2 dichloromethane 200 ppm
    - 67-64-1 acetone 200 ppm
Trade name: Custom Standard

7 Handling and storage

- Handling:
  - Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace.
  - 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:
    - 75-09-2 dichloromethane
      - PEL: Short-term value: 125 ppm
      - Long-term value: 25 ppm
      - see 29 CFR 1910.1052
      - REL: See Pocket Guide App. A
      - TLV: Long-term value: 174 mg/m³, 50 ppm
      - BEI
    - 67-64-1 acetone
      - PEL: Long-term value: 2400 mg/m³, 1000 ppm
      - REL: Long-term value: 590 mg/m³, 250 ppm
      - TLV: Short-term value: 1187 mg/m³, 500 ppm
      - Long-term value: 594 mg/m³, 250 ppm
      - BEI

(Contd. of page 3)

<table>
<thead>
<tr>
<th>PAC-2:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>75-09-2</td>
<td>dichloromethane</td>
<td>560 ppm</td>
</tr>
<tr>
<td>67-64-1</td>
<td>acetone</td>
<td>3200* ppm</td>
</tr>
<tr>
<td>PAC-3:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75-09-2</td>
<td>dichloromethane</td>
<td>6,900 ppm</td>
</tr>
<tr>
<td>67-64-1</td>
<td>acetone</td>
<td>5700* ppm</td>
</tr>
</tbody>
</table>

(Contd. on page 5)
Ingredients with biological limit values:

<table>
<thead>
<tr>
<th>Substance</th>
<th>BEI</th>
<th>Medium</th>
<th>Time</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-09-2 dichloromethane</td>
<td>0.3 mg/L</td>
<td>urine</td>
<td>end of shift</td>
<td>Dichloromethane (semi-quantitative)</td>
</tr>
<tr>
<td>67-64-1 acetone</td>
<td>50 mg/L</td>
<td>urine</td>
<td>end of shift</td>
<td>Acetone (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.
  - Avoid contact with the eyes and skin.
- 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:
  - 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 cannot 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: According to product specification
    - Odor: Characteristic

(Contd. on page 6)
Trade name: Custom Standard

- **Odor threshold**: Not determined.
- **pH-value**: Not determined.
- **Change in condition**
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: 40 °C (104 °F)
- **Flash point**: -17 °C (1.4 °F)
- **Flammability (solid, gaseous)**: Not applicable.
- **Ignition temperature**: 465 °C (869 °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: 2.6 Vol %
  - Upper: 22 Vol %
- **Vapor pressure at 20 °C (68 °F)**: 360 hPa (270 mm Hg)
- **Density**: Not determined.
- **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: 99.5 %
  - VOC content:
    - 0.09 %
    - 0.9 g/l / 0.01 lb/gl
- **Solids content**: 0.4 %
- **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.
Trade name: Custom Standard

- **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:**

<table>
<thead>
<tr>
<th>ATE (Acute Toxicity Estimate)</th>
<th>Oral</th>
<th>Dermal</th>
<th>Inhalative</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50</td>
<td>2,569 mg/kg (rat)</td>
<td>3,211 mg/kg (rat)</td>
<td>141 mg/L (rat)</td>
</tr>
<tr>
<td>Dermal LD50</td>
<td>&gt;3,211 mg/kg (rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalative LC50/4 h</td>
<td>141 mg/L (rat)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**75-09-2 dichloromethane**

| Oral | LD50  | 1,600 mg/kg (rat) |
| Dermal | LD50 | >2,000 mg/kg (rat) |
| Inhalative | LC50/4 h | 88 mg/L (rat) |

**67-64-1 acetone**

| Oral | LD50 | 5,800 mg/kg (rat) |
| Dermal | LD50 | 20,000 mg/kg (rabbit) |

- **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **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)**
  - 75-09-2 dichloromethane 2A

- **NTP (National Toxicology Program)**
  - 75-09-2 dichloromethane R

- **OSHA-Ca (Occupational Safety & Health Administration)**
  - 75-09-2 dichloromethane

## 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 2 (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.
Trade name: Custom Standard

- 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: UN1992

- UN proper shipping name
  - DOT: Flammable liquids, toxic, n.o.s. (Acetone, Dichloromethane)
  - IMDG, IATA: FLAMMABLE LIQUID, TOXIC, N.O.S. (ACETONE, DICHLOROMETHANE)

- Transport hazard class(es)
  - DOT
    - Class: 3 Flammable liquids
    - Label: 3, 6.1
  - IMDG
    - Class: 3 Flammable liquids
    - Label: 3/6.1
  - IATA
    - Class: 3 Flammable liquids
    - Label: 3 (6.1)

- Packing group
  - DOT, IMDG, IATA: II
Trade name: Custom Standard

- Environmental hazards: Not applicable.
- Special precautions for user: Warning: Flammable liquids
- Danger code (Kemler): 336
- EMS Number: F-E,S-D
- Stowage Category: B
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.
- Transport/Additional information:
  - DOT
  - Quantity limitations: On passenger aircraft/rail: 1 L
    On cargo aircraft only: 60 L
  - IMDG
  - Limited quantities (LQ): 1L
  - Exempted 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. (ACETONE, DICHLOROMETHANE), 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):
    75-09-2 dichloromethane
  - TSCA (Toxic Substances Control Act):
    75-09-2 dichloromethane
    67-64-1 acetone
    367-12-4 2-fluorophenol
    321-60-8 2-fluorobiphenyl
    118-79-6 2,4,6-tribromophenol
  - TSCA new (21st Century Act) (Substances not listed)
    - Proposition 65
      - Chemicals known to cause cancer:
        75-09-2 dichloromethane
      - 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)

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-09-2</td>
<td>L</td>
</tr>
<tr>
<td>67-64-1</td>
<td>L</td>
</tr>
</tbody>
</table>

- TLV (Threshold Limit Value established by ACGIH)

<table>
<thead>
<tr>
<th>Chemical</th>
<th>TLV Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-09-2</td>
<td>A3</td>
</tr>
<tr>
<td>67-64-1</td>
<td>A4</td>
</tr>
</tbody>
</table>

- NIOSH-Ca (National Institute for Occupational Safety and Health)

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-09-2</td>
<td></td>
</tr>
</tbody>
</table>

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:

- dichloromethane
- acetone

Hazard statements

- Highly flammable liquid and vapor.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause cancer.
- 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.
- Specific treatment (see on this label).
- If skin irritation occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- Take off contaminated clothing and wash it before reuse.
- In case of fire: Use for extinction: CO₂, powder or water spray.
- Store in a well-ventilated place. Keep container tightly closed.
Trade name: Custom Standard

Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· National regulations:
· Additional classification according to Decree on Hazardous Materials:
  Carcinogenic hazardous material group III (dangerous).

· Information about limitation of use:
  Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· 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 12/19/2017 / -
· 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)
  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
  BEI: Biological Exposure Limit
  Flam. Liq. 2: Flammable liquids – Category 2
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  Carc. 1B: Carcinogenicity – Category 1B
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3