1 Identification

- **Product identifier**
  - Trade name: Custom Standard
  - Part number: ICUS-2617
  - 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**
  The product is not classified according to the Globally Harmonized System (GHS).

- **Label elements**
  - GHS label elements: Void
  - Hazard pictograms: Void
  - Signal word: Void
  - Hazard statements: Void

- **Classification system:**
  - NFPA ratings (scale 0 - 4)
    | | | |
    | 0 | 0 | 0 |
    Health = 0
    Fire = 0
    Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    | | | |
    | 0 | 0 | 0 |
    Health = 0
    Fire = 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.
### 4 First-aid measures

**Description of first aid measures**

**General information:** No special measures required.

**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:** 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:** Not required.

**Environmental precautions:** No special measures required.

**Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

**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**

<table>
<thead>
<tr>
<th>PAC-1:</th>
<th>7758-02-3 potassium bromide</th>
<th>9.2 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3811-04-9 potassium chlorate</td>
<td>5.6 mg/m³</td>
</tr>
<tr>
<td></td>
<td>7681-49-4 sodium fluoride</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td></td>
<td>7631-99-4 sodium nitrate, containing in the dry state more than 16.3 per cent by weight of nitrogen</td>
<td>4.1 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-2:</th>
<th>7758-02-3 potassium bromide</th>
<th>100 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3811-04-9 potassium chlorate</td>
<td>62 mg/m³</td>
</tr>
<tr>
<td></td>
<td>7681-49-4 sodium fluoride</td>
<td>90 mg/m³</td>
</tr>
<tr>
<td></td>
<td>7631-99-4 sodium nitrate, containing in the dry state more than 16.3 per cent by weight of nitrogen</td>
<td>45 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-3:</th>
<th>7758-02-3 potassium bromide</th>
<th>610 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3811-04-9 potassium chlorate</td>
<td>370 mg/m³</td>
</tr>
</tbody>
</table>

(Contd. on page 3)
Trade name: Custom Standard

| 7681-49-4 | sodium fluoride | 1,100 mg/m³ |
| 7631-99-4 | sodium nitrate, containing in the dry state more than 16.3 per cent by weight of nitrogen | 270 mg/m³ |

7 Handling and storage

Handling:
- Precautions for safe handling: No special measures required.
- Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities

Storage:
- Requirements to be met by storerooms and receptacles: 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:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.
  - 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 breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - Eye protection: Goggles recommended during refilling.

(Contd. on page 4)
## 9 Physical and chemical properties

**Information on basic physical and chemical properties**

### General Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Fluid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

### Change in condition

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>100°C (°F)</td>
</tr>
</tbody>
</table>

### Flammability (solid, gaseous)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td></td>
</tr>
</tbody>
</table>

### Danger of explosion

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto igniting</td>
<td>Product is not selfigniting</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product does not present an explosion hazard</td>
</tr>
</tbody>
</table>

### Explosion limits

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

### Vapor pressure at 20°C (68 °F)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor pressure at 20°C (68 °F)</td>
<td>23 hPa (mm Hg)</td>
</tr>
</tbody>
</table>

### Density

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

### Solubility in / Miscibility with Water

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not miscible or difficult to mix.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

### Viscosity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic at 20°C (68 °F)</td>
<td>0.952 mPas</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

### Solvent content

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>99.4 %</td>
</tr>
<tr>
<td>VOC content</td>
<td>0.00 %</td>
</tr>
<tr>
<td>Solids content</td>
<td>0.0 %</td>
</tr>
</tbody>
</table>

### Other information

No further relevant information available.

---

## 10 Stability and reactivity

### Reactivity

No further relevant information available.
Trade name: Custom Standard

- 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:
    - 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 is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to
our experience and the information provided to us.

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    7681-49-4 sodium fluoride
  - 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: Generally not hazardous for water
    - 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: Smaller quantities can be disposed of with household waste.
### 14 Transport information

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>DOT, IMDG, IATA</th>
<th>not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>DOT, IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>DOT, IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td>Class</td>
<td></td>
<td>not regulated</td>
</tr>
<tr>
<td>Packing group</td>
<td>DOT, IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>not regulated</td>
<td></td>
</tr>
</tbody>
</table>

### 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):**

- 7447-40-7 potassium chloride
- 7758-02-3 potassium bromide
- 3811-04-9 potassium chlorate
- 7681-49-4 sodium fluoride
- 7631-99-4 sodium nitrate, containing in the dry state more than 16.3 per cent by weight of nitrogen
- 7732-18-5 water

**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.
Trade name: Custom Standard

- **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)**
    7681-49-4 sodium fluoride A4

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

- **GHS label elements**
  Void

- **Hazard pictograms**
  Void

- **Signal word**
  Void

- **Hazard statements**
  Void

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

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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**
  10/16/2017 / -

- **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)
  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