1 Identification

- Product identifier
- Trade name: Custom Standard
- Part number: ICUS-4868
- 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)
    Health = 0
    Fire = 0
    Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    HEALTH Health = 0
    FIRE Fire = 0
    REACTIVITY 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.
Trade name: Custom Standard

· Dangerous components: Void

### 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></th>
</tr>
</thead>
<tbody>
<tr>
<td>107-15-3 ethylenediamine</td>
<td>0.88 ppm</td>
</tr>
<tr>
<td>7778-80-5 Potassium Sulfate</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td>7632-00-0 sodium nitrite</td>
<td>6.4 mg/m³</td>
</tr>
<tr>
<td>7722-76-1 ammonium dihydrogenorthophosphate</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td>7681-49-4 sodium fluoride</td>
<td>17 mg/m³</td>
</tr>
<tr>
<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>
<tr>
<td>7758-19-2 sodium chlorite</td>
<td>0.19 mg/m³</td>
</tr>
<tr>
<td>7758-02-3 potassium bromide</td>
<td>9.2 mg/m³</td>
</tr>
<tr>
<td>7778-74-7 potassium perchlorate</td>
<td>6.3 mg/m³</td>
</tr>
<tr>
<td>3811-04-9 potassium chlorate</td>
<td>5.6 mg/m³</td>
</tr>
</tbody>
</table>

#### PAC-2:

| 107-15-3 ethylenediamine | 9.7 ppm |

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

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7778-80-5 Potassium Sulfate</td>
<td>220 mg/m³</td>
</tr>
<tr>
<td>7632-00-0 sodium nitrite</td>
<td>71 mg/m³</td>
</tr>
<tr>
<td>7722-76-1 ammonium dihydrogenorthophosphate</td>
<td>190 mg/m³</td>
</tr>
<tr>
<td>7681-49-4 sodium fluoride</td>
<td>90 mg/m³</td>
</tr>
<tr>
<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>
<tr>
<td>7758-19-2 sodium chlorite</td>
<td>2.1 mg/m³</td>
</tr>
<tr>
<td>7758-02-3 potassium bromide</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>7778-74-7 potassium perchlorate</td>
<td>69 mg/m³</td>
</tr>
<tr>
<td>3811-04-9 potassium chlorate</td>
<td>62 mg/m³</td>
</tr>
</tbody>
</table>

- PAC-3:
<table>
<thead>
<tr>
<th>Chemical</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-15-3 ethylenediamine</td>
<td>20 ppm</td>
</tr>
<tr>
<td>7778-80-5 Potassium Sulfate</td>
<td>1,300 mg/m³</td>
</tr>
<tr>
<td>7632-00-0 sodium nitrite</td>
<td>240 mg/m³</td>
</tr>
<tr>
<td>7722-76-1 ammonium dihydrogenorthophosphate</td>
<td>1,100 mg/m³</td>
</tr>
<tr>
<td>7681-49-4 sodium fluoride</td>
<td>1,100 mg/m³</td>
</tr>
<tr>
<td>7631-99-4 sodium nitrate, containing in the dry state more than 16,3 per cent by weight of nitrogen</td>
<td>270 mg/m³</td>
</tr>
<tr>
<td>7758-19-2 sodium chlorite</td>
<td>13 mg/m³</td>
</tr>
<tr>
<td>7758-02-3 potassium bromide</td>
<td>610 mg/m³</td>
</tr>
<tr>
<td>7778-74-7 potassium perchlorate</td>
<td>420 mg/m³</td>
</tr>
<tr>
<td>3811-04-9 potassium chlorate</td>
<td>370 mg/m3</td>
</tr>
</tbody>
</table>

### 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 break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

### 9 Physical and chemical properties
- **Information on basic physical and chemical properties**
- **General Information**
  - **Appearance:**
    - Form: Fluid
    - Color: Colorless
  - **Odor:** Odorless
  - **Odor threshold:** Not determined.
  - **pH-value:** Not determined.
- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** 100°C (°F)
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:**
  - **Decomposition temperature:** Not determined.
  - **Auto igniting:** Product is not selfigniting.
  - **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - **Lower:** Not determined.
  - **Upper:** Not determined.
- **Vapor pressure at 20°C (68 °F):** 23 hPa (mm Hg)
- **Density at 20°C (68 °F):** 1.00001 g/cm³ (lbs/gal)
- **Relative density** Not determined.
- **Vapor density** Not determined.
Trade name: Custom Standard

- **Evaporation rate**: Not determined.
- **Solubility in / Miscibility with Water**: Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water)**: Not determined.
- **Viscosity**: 
  - Dynamic at 20°C (68 °F): 0.952 mPas
  - Kinematic: Not determined.
- **Solvent content**: 
  - Organic solvents: 0.0 %
  - Water: 100.0 %
  - VOC content: 0.01 %
    - 0.1 g/l / 0.00 lb/gl
- **Solids content**: 0.0 %
- **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**:
- **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 3
    - 7758-19-2 sodium chlorite 3
  - **NTP (National Toxicology Program)**
    - None of the ingredients is listed.
Trade name: Custom Standard

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.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, IMDG, IATA: not regulated
- UN proper shipping name
  - DOT, IMDG, IATA: not regulated
- Transport hazard class(es)
  - DOT, IMDG, IATA
    - Class: not regulated
- Packing group
  - DOT, IMDG, IATA: not regulated
- Environmental hazards:
  - Not applicable.
- Special precautions for user
  - Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
  - Not applicable.
- UN "Model Regulation":
  - not regulated
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara
  - Section 355 (extremely hazardous substances):
    - 107-15-3 ethylenediamine
  - Section 313 (Specific toxic chemical listings):
    - 7632-00-0 sodium nitrite
- TSCA (Toxic Substances Control Act):
  - All ingredients are listed.
- 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)
    - 107-15-3 ethylenediamine D
    - 7758-19-2 sodium chlorite D, CBD
    - 7778-74-7 potassium perchlorate NL
  - TLV (Threshold Limit Value established by ACGIH)
    - 107-15-3 ethylenediamine A4
    - 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.

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 11/03/2017 / -
- 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
Trade name: Custom Standard

- 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