1 Identification

· Product identifier
· Trade name: Custom Standard
· Part number: ICUS-5468
· 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 0 Health = 0
    FIRE 0 Fire = 0
    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.
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: 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).
- 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>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-99-4 sodium nitrate, containing in the dry state</td>
<td>more than 16,3 per cent by weight of nitrogen</td>
<td>4.1 mg/m³</td>
<td></td>
</tr>
<tr>
<td>7681-49-4 sodium fluoride</td>
<td></td>
<td>17 mg/m³</td>
<td></td>
</tr>
<tr>
<td>7758-02-3 potassium bromide</td>
<td></td>
<td>9.2 mg/m³</td>
<td></td>
</tr>
<tr>
<td>7632-00-0 sodium nitrite</td>
<td></td>
<td>6.4 mg/m³</td>
<td></td>
</tr>
<tr>
<td>7722-76-1 ammonium dihydrogenorthophosphate</td>
<td></td>
<td>17 mg/m³</td>
<td></td>
</tr>
<tr>
<td>7758-01-2 potassium bromate</td>
<td></td>
<td>0.3 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

- PAC-2:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-99-4 sodium nitrate, containing in the dry state</td>
<td>more than 16,3 per cent by weight of nitrogen</td>
<td>45 mg/m³</td>
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</tr>
<tr>
<td>7681-49-4 sodium fluoride</td>
<td></td>
<td>90 mg/m³</td>
<td></td>
</tr>
<tr>
<td>7758-02-3 potassium bromide</td>
<td></td>
<td>100 mg/m³</td>
<td></td>
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<tr>
<td>7632-00-0 sodium nitrite</td>
<td></td>
<td>71 mg/m³</td>
<td></td>
</tr>
<tr>
<td>7722-76-1 ammonium dihydrogenorthophosphate</td>
<td></td>
<td>190 mg/m³</td>
<td></td>
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</table>
Trade name: Custom Standard

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Name</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7758-01-2</td>
<td>potassium bromate</td>
<td>3.1 mg/m³</td>
</tr>
</tbody>
</table>

- **PAC-3:**

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Name</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-99-4</td>
<td>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>7681-49-4</td>
<td>sodium fluoride</td>
<td>1,100 mg/m³</td>
</tr>
<tr>
<td>7758-02-3</td>
<td>potassium bromide</td>
<td>610 mg/m³</td>
</tr>
<tr>
<td>7632-00-0</td>
<td>sodium nitrite</td>
<td>240 mg/m³</td>
</tr>
<tr>
<td>7722-76-1</td>
<td>ammonium dihydrogenorthophosphate</td>
<td>1,100 mg/m³</td>
</tr>
<tr>
<td>7758-01-2</td>
<td>potassium bromate</td>
<td>89 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.
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: 0°C (°F)
  - 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:** 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 at 20°C (68 °F): 0.952 mPas
  - Kinematic: Not determined.

- **Solvent content:**
  - **Water:** 100.0 %
  - VOC content: 0.00 %
  - 0.0 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
    - 7758-01-2 potassium bromate 2B
  - **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: 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 not regulated
  · 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):
    None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
  7632-00-0 sodium nitrite
  7758-01-2 potassium bromate

· TSCA (Toxic Substances Control Act):
  7447-40-7 potassium chloride
  7631-99-4 sodium nitrate, containing in the dry state more than 16.3 per cent by weight of nitrogen
  7681-49-4 sodium fluoride
  7758-02-3 potassium bromide
  7632-00-0 sodium nitrate
  7722-76-1 ammonium dihydrogenorthophosphate
  7758-01-2 potassium bromate
  7732-18-5 water
Trade name: Custom Standard

45.2.5 · Proposition 65
· Chemicals known to cause cancer:
  7758-01-2 potassium bromate
· 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)
    7758-01-2 potassium bromate B2, K/L(oral), CBD(inh)
  · 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.

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 08/07/2017 / -
· 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