1 Identification

- **Product identifier**
  - Trade name: Continuing Check Verification Std 1
  - Article number: CCV-1-A

- **Details of the supplier of the safety data sheet**
  - Manufacturer/Supplier: High-Purity Standards
    - PO Box 41727 Charleston, SC 29423 United States
    - Telephone: +1-843-767-7900
    - Fax: +1-843-767-7906
    - highpuritystandards.com
    - Email: info@highpuritystandards.com

- **Information department:** Product safety department

- **Emergency telephone number:**
  - INFOTRAC
    - Emergency telephone numbers: 1-800-535-5053
    - Other emergency telephone numbers: 1-352-323-3500

2 Hazard(s) identification

- **Classification of the substance or mixture**
  
  ![GHS05 Corrosion]

  Met. Corr. 1  H290  May be corrosive to metals.
  Skin Corr. 1A  H314  Causes severe skin burns and eye damage.
  Eye Dam. 1  H318  Causes serious eye damage.

  ![GHS07]

  Acute Tox. 4  H312  Harmful in contact with skin.

- **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**

  ![GHS05](GHS05.png) ![GHS07](GHS07.png)

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - nitric acid
  - Hydrofluoric acid

- **Hazard statements**
  - H290 May be corrosive to metals.
  - H312 Harmful in contact with skin.
Trade name: Continuing Check Verification Std 1

H314 Causes severe skin burns and eye damage.

**Precautionary statements**
Keep only in original container.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Rinse mouth. Do NOT induce vomiting.
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.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.
Store locked up.
Store in corrosive resistant container with a resistant inner liner.
Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

**NFPA ratings (scale 0 - 4)**

- Health = 3
- Fire = 0
- Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

- HEALTH
  - Health = 3
- 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.

**Dangerous components:**

- 7697-37-2 nitric acid 4.0%
- 7664-39-3 Hydrofluoric acid 0.49%

**Chemical identification of the substance/preparation**

- 7732-18-5 water, distilled, conductivity or of similar purity 95.035%
- 7722-76-1 Ammonium dihydrogenphosphate 0.05%
- 7757-79-1 potassium nitrate 0.05%
- 471-34-1 calcium carbonate 0.02%

(Contd. on page 3)
4 First-aid measures

- Description of first aid measures
- General information:
  Immediately remove any clothing soiled by the product.
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- 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. Then consult a doctor.
- After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a 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.
6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Mount respiratory protective device.
  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).
  Use neutralizing agent.
  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

<table>
<thead>
<tr>
<th>PAC-1:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2 nitric acid</td>
<td>0.16 ppm</td>
</tr>
<tr>
<td>7664-39-3 Hydrofluoric acid</td>
<td>1.0 ppm</td>
</tr>
<tr>
<td>7722-76-1 Ammonium dihydrogenphosphate</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td>7757-79-1 potassium nitrate</td>
<td>9 mg/m³</td>
</tr>
<tr>
<td>471-34-1 calcium carbonate</td>
<td>45 mg/m³</td>
</tr>
<tr>
<td>534-13-2 lithium carbonate</td>
<td>3.1 mg/m³</td>
</tr>
<tr>
<td>7439-89-6 iron</td>
<td>3.2 mg/m³</td>
</tr>
<tr>
<td>7439-92-1 lead</td>
<td>0.15 mg/m³</td>
</tr>
<tr>
<td>7439-95-4 magnesium</td>
<td>18 mg/m³</td>
</tr>
<tr>
<td>7439-98-7 molybdenum</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
<td>4.5 mg/m³</td>
</tr>
<tr>
<td>7440-28-0 thallium</td>
<td>0.06 mg/m³</td>
</tr>
<tr>
<td>7440-38-2 arsenic</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>7440-50-8 copper</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>7440-69-9 bismuth</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>7782-49-2 selenium</td>
<td>0.6 mg/m³</td>
</tr>
<tr>
<td>10042-76-9 strontium nitrate</td>
<td>5.7 mg/m³</td>
</tr>
<tr>
<td>10043-33-3 boric acid</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>513-77-9 barium carbonate</td>
<td>2.2 mg/m³</td>
</tr>
<tr>
<td>6156-78-1 Manganese(II) acetate tetrahydrate</td>
<td>13 mg/m³</td>
</tr>
<tr>
<td>7440-43-9 cadmium (non-pyrophoric)</td>
<td>0.10 mg/m³</td>
</tr>
<tr>
<td>7440-48-4 cobalt</td>
<td>0.18 mg/m³</td>
</tr>
</tbody>
</table>

(Contd. on page 5)
### Trade name: Continuing Check Verification Std 1

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-66-6</td>
<td>Zinc</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>7803-55-6</td>
<td>Ammonium Vanadate</td>
<td>0.01 mg/m³</td>
</tr>
<tr>
<td>7440-47-3</td>
<td>Chromium</td>
<td>1.5 mg/m³</td>
</tr>
</tbody>
</table>

#### PAC-2:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>Nitric acid</td>
<td>24 ppm</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrofluoric acid</td>
<td>24 ppm</td>
</tr>
<tr>
<td>7722-76-1</td>
<td>Ammonium dihydrogenphosphate</td>
<td>190 mg/m³</td>
</tr>
<tr>
<td>7757-79-1</td>
<td>Potassium nitrate</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>471-34-1</td>
<td>Calcium carbonate</td>
<td>210 mg/m³</td>
</tr>
<tr>
<td>554-13-2</td>
<td>Lithium carbonate</td>
<td>34 mg/m³</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>Iron</td>
<td>35 mg/m³</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>Lead</td>
<td>120 mg/m³</td>
</tr>
<tr>
<td>7439-95-4</td>
<td>Magnesium</td>
<td>200 mg/m³</td>
</tr>
<tr>
<td>7439-98-7</td>
<td>Molybdenum</td>
<td>330 mg/m³</td>
</tr>
<tr>
<td>7440-02-0</td>
<td>Nickel</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>Thallium</td>
<td>3.3 mg/m³</td>
</tr>
<tr>
<td>7440-38-2</td>
<td>Arsenic</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>Copper</td>
<td>33 mg/m³</td>
</tr>
<tr>
<td>7440-69-9</td>
<td>Bismuth</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td>7782-49-2</td>
<td>Selenium</td>
<td>6.6 mg/m³</td>
</tr>
<tr>
<td>10042-76-9</td>
<td>Strontium nitrate</td>
<td>62 mg/m³</td>
</tr>
<tr>
<td>10043-35-3</td>
<td>Boric acid</td>
<td>23 mg/m³</td>
</tr>
<tr>
<td>513-77-9</td>
<td>Barium carbonate</td>
<td>270 mg/m³</td>
</tr>
<tr>
<td>6156-78-1</td>
<td>Manganese(II) acetate tetrahydrate</td>
<td>22 mg/m³</td>
</tr>
<tr>
<td>7440-43-9</td>
<td>Cadmium (non-pyrophoric)</td>
<td>0.76 mg/m³</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>Cobalt</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>7440-66-6</td>
<td>Zinc</td>
<td>21 mg/m³</td>
</tr>
<tr>
<td>7803-55-6</td>
<td>Ammonium Vanadate</td>
<td>0.11 mg/m³</td>
</tr>
<tr>
<td>7440-47-3</td>
<td>Chromium</td>
<td>17 mg/m³</td>
</tr>
</tbody>
</table>

#### PAC-3:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>Nitric acid</td>
<td>92 ppm</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrofluoric acid</td>
<td>44 ppm</td>
</tr>
<tr>
<td>7722-76-1</td>
<td>Ammonium dihydrogenphosphate</td>
<td>1,100 mg/m³</td>
</tr>
<tr>
<td>7757-79-1</td>
<td>Potassium nitrate</td>
<td>600 mg/m³</td>
</tr>
<tr>
<td>471-34-1</td>
<td>Calcium carbonate</td>
<td>1,300 mg/m³</td>
</tr>
<tr>
<td>554-13-2</td>
<td>Lithium carbonate</td>
<td>210 mg/m³</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>Iron</td>
<td>150 mg/m³</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>Lead</td>
<td>700 mg/m³</td>
</tr>
<tr>
<td>7439-95-4</td>
<td>Magnesium</td>
<td>1,200 mg/m³</td>
</tr>
<tr>
<td>7439-98-7</td>
<td>Molybdenum</td>
<td>2,000 mg/m³</td>
</tr>
</tbody>
</table>

(Contd. on page 6)
7 Handling and storage

· Handling:
· Precautions for safe handling
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
· Information about protection against explosions and fires: Keep respiratory protective device available.

· 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: Keep receptacle tightly sealed.
· 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2 nitric acid</td>
<td>PEL: Long-term value: 5 mg/m³, 2 ppm, REL: Short-term value: 10 mg/m³, 4 ppm, TLV: Short-term value: 10 mg/m³, 4 ppm, Long-term value: 5.2 mg/m³, 2 ppm</td>
</tr>
</tbody>
</table>
Trade name: Continuing Check Verification Std 1

<table>
<thead>
<tr>
<th>7664-39-3 Hydrofluoric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL Long-term value: 3 ppm as F</td>
</tr>
<tr>
<td>REL Long-term value: 2.5 mg/m³, 3 ppm Ceiling limit value: 5 mg/m³, 6 ppm *15-min, as F</td>
</tr>
<tr>
<td>TLV Long-term value: 0.41 mg/m³, 0.5 ppm Ceiling limit value: 1.64 mg/m³, 2 ppm as F; Skin, BEI</td>
</tr>
</tbody>
</table>

Ingredients with biological limit values:

7664-39-3 Hydrofluoric acid

BEI 3 mg/g creatinine
- Medium: urine
- Time: prior to shift
- Parameter: Fluorides (background, nonspecific)

10 mg/g creatinine
- Medium: urine
- Time: end of shift
- Parameter: Fluorides (background, nonspecific)

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:
- 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

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 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.
9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Liquid
  - Color: colorless
- Odor:
  - Odor threshold: Not determined.
- pH-value: Not determined.
- Change in condition
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: 100 °C (212 °F)
- Flash point: Not applicable.
- Flammability (solid, gaseous): Not applicable.
- 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 (17.3 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:
  - Water: 95.0 %
Trade name: Continuing Check Verification Std 1

<table>
<thead>
<tr>
<th>VOC content:</th>
<th>0.00 %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.0 g/l / 0.00 lb/gal</td>
</tr>
</tbody>
</table>

| Solids content: | 0.4 % |
| Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**: No decomposition if used according to specifications.
- **Thermal decomposition / conditions to be avoided**: 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**:
      - 7664-39-3 Hydrofluoric acid
      - Oral LD50 1,276 mg/kg (rat)
    - **Primary irritant effect**:
      - **on the skin**: Strong caustic effect on skin and mucous membranes.
      - **on the eye**: Strong caustic effect. Strong irritant with the danger of severe eye injury.
    - **Sensitization**: No sensitizing effects known.
    - **Additional toxicological information**:
      The product shows the following dangers according to internally approved calculation methods for preparations:
      - Harmful
      - Corrosive
      - Irritant
      - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
  - **Carcinogenic categories**
    - IARC (International Agency for Research on Cancer)
      - 7439-92-1 lead 2B
      - 7440-02-0 nickel 2B
      - 7440-38-2 arsenic 1
      - 7782-49-2 selenium 3
      - 543-81-7 beryllium acetate 1
      - 7440-43-9 cadmium (non-pyrophoric) 1
      - 7440-48-4 cobalt 2B

(Contd. on page 10)
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.
    Must not reach bodies of water or drainage ditch undiluted or unneutralized.
  - 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, ADR, IMDG, IATA UN3264
<table>
<thead>
<tr>
<th><strong>Trade name: Continuing Check Verification Std 1</strong></th>
</tr>
</thead>
</table>

| **UN proper shipping name** | Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid) |
| **DOT** | 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) |
| **ADR** | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) |

<table>
<thead>
<tr>
<th><strong>Transport hazard class(es)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT</strong></td>
</tr>
<tr>
<td><strong>Class</strong></td>
</tr>
<tr>
<td><strong>Label</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ADR, IMDG, IATA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class</strong></td>
</tr>
<tr>
<td><strong>Label</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Packing group</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT, ADR, IMDG, IATA</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Environmental hazards:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not applicable.</strong></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th><strong>Special precautions for user</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Warning:</strong> Corrosive substances</td>
</tr>
<tr>
<td><strong>DOT</strong></td>
</tr>
<tr>
<td><strong>Danger code (Kemler):</strong></td>
</tr>
<tr>
<td><strong>EMS Number:</strong></td>
</tr>
<tr>
<td><strong>Segregation groups</strong></td>
</tr>
<tr>
<td><strong>Stowage Category</strong></td>
</tr>
<tr>
<td><strong>Stowage Code</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not applicable.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Transport/Additional information:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT</strong></td>
</tr>
<tr>
<td><strong>Quantity limitations</strong></td>
</tr>
<tr>
<td>On passenger aircraft/rail: 5 L</td>
</tr>
<tr>
<td>On cargo aircraft only: 60 L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ADR</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excepted quantities (EQ)</strong></td>
</tr>
<tr>
<td>Code: E1</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 1000 ml</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):**
    - 7697-37-2 nitric acid
    - 7664-39-3 Hydrofluoric acid
  - **Section 313 (Specific toxic chemical listings):**
    - 7697-37-2 nitric acid
    - 7664-39-3 Hydrofluoric acid
    - 7757-79-1 potassium nitrate
    - 554-13-2 lithium carbonate
    - 7429-90-5 aluminium
    - 7439-92-1 lead
    - 7440-02-0 nickel
    - 7440-28-0 thallium
    - 7440-38-2 arsenic
    - 7440-50-8 copper
    - 7782-49-2 selenium
    - 10042-76-9 strontium nitrate
    - 513-77-9 barium carbonate
    - 543-81-7 beryllium acetate
    - 7440-43-9 cadmium (non-pyrophoric)
    - 7440-48-4 cobalt
    - 7440-66-6 zinc
    - 7803-55-6 ammonium vanadate
    - 7440-47-3 chromium
  - **TSCA (Toxic Substances Control Act):**
    - 7732-18-5 water, distilled, conductivity or of similar purity
    - 7697-37-2 nitric acid
    - 7664-39-3 Hydrofluoric acid
    - 7722-76-1 ammonium dihydrogenphosphate
Trade name: Continuing Check Verification Std 1

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>7757-79-1</td>
<td>potassium nitrate</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>471-34-1</td>
<td>calcium carbonate</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>554-13-2</td>
<td>lithium carbonate</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7429-90-5</td>
<td>aluminium</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>iron</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>lead</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7439-95-4</td>
<td>magnesium</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7439-98-7</td>
<td>molybdenum</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-02-0</td>
<td>nickel</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-38-2</td>
<td>arsenic</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>copper</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-69-9</td>
<td>bismuth</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7782-49-2</td>
<td>selenium</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>10042-76-9</td>
<td>strontium nitrate</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>10043-35-3</td>
<td>boric acid</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-43-9</td>
<td>cadmium (non-pyrophoric)</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-66-6</td>
<td>zinc</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7803-55-6</td>
<td>Ammonium Vanadate</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>7440-47-3</td>
<td>chromium</td>
<td>ACTIVE</td>
</tr>
</tbody>
</table>

- **Hazardous Air Pollutants**
  - 7664-39-3 Hydrofluoric acid
  - 7439-92-1 lead
  - 7440-48-4 cobalt

- **Proposition 65**
  - **Chemicals known to cause cancer:**
    - 7439-92-1 lead
    - 7440-02-0 nickel
    - 7440-38-2 arsenic
    - 543-81-7 beryllium acetate
    - 7440-43-9 cadmium (non-pyrophoric)
    - 7440-48-4 cobalt

  - **Chemicals known to cause reproductive toxicity for females:**
    - 7439-92-1 lead

  - **Chemicals known to cause reproductive toxicity for males:**
    - 7439-92-1 lead
    - 7440-43-9 cadmium (non-pyrophoric)
Trade name: Continuing Check Verification Std 1

<table>
<thead>
<tr>
<th>Chemicals known to cause developmental toxicity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>554-13-2 lithium carbonate</td>
</tr>
<tr>
<td>7439-92-1 lead</td>
</tr>
<tr>
<td>7440-43-9 cadmium (non-pyrophoric)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carcinogenic categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EPA (Environmental Protection Agency)</strong></td>
</tr>
<tr>
<td>7439-92-1 lead</td>
</tr>
<tr>
<td>7440-38-2 arsenic</td>
</tr>
<tr>
<td>7440-50-8 copper</td>
</tr>
<tr>
<td>7782-49-2 selenium</td>
</tr>
<tr>
<td>10043-35-3 boric acid</td>
</tr>
<tr>
<td>513-77-9 barium carbonate</td>
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</tr>
<tr>
<td>7440-66-6 zinc</td>
</tr>
<tr>
<td>7440-47-3 chromium</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TLV (Threshold Limit Value established by ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7429-90-5 aluminium</td>
</tr>
<tr>
<td>7439-92-1 lead</td>
</tr>
<tr>
<td>7439-98-7 molybdenum</td>
</tr>
<tr>
<td>7440-02-0 nickel</td>
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</tr>
<tr>
<td>7440-48-4 cobalt</td>
</tr>
<tr>
<td>7440-47-3 chromium</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NIOSH-Ca (National Institute for Occupational Safety and Health)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-02-0 nickel</td>
</tr>
<tr>
<td>7440-38-2 arsenic</td>
</tr>
<tr>
<td>543-81-7 beryllium acetate</td>
</tr>
<tr>
<td>7440-43-9 cadmium (non-pyrophoric)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GHS label elements</th>
<th>The product is classified and labeled according to the Globally Harmonized System (GHS).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard pictograms</td>
<td>GHS05  GHS07</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
</table>

**Hazard-determining components of labeling:**

nitric acid
Trade name: Continuing Check Verification Std 1

Hydrofluoric acid

· **Hazard statements**
  - H290 May be corrosive to metals.
  - H312 Harmful in contact with skin.
  - H314 Causes severe skin burns and eye damage.

· **Precautionary statements**
  - Keep only in original container.
  - Do not breathe dusts or mists.
  - Wash thoroughly after handling.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - If swallowed: Rinse mouth. Do NOT induce vomiting.
  - 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.
  - Immediately call a poison center/doctor.
  - Specific treatment (see on this label).
  - Take off contaminated clothing and wash it before reuse.
  - Wash contaminated clothing before reuse.
  - Absorb spillage to prevent material damage.
  - Store locked up.
  - Store in corrosive resistant container with a resistant inner liner.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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.

· **Department issuing SDS:** Environment protection department.

· **Contact:**
  - High-Purity Standards
  - Tel: 843-767-7900
  - Fax: 843-767-7906

· **Date of preparation / last revision** 08/26/2019 / -

· **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)
  - 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

(Contd. on page 16)
Trade name: Continuing Check Verification Std 1

(Contd. of page 15)

TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
1 Identification

- Product identifier
  - Trade name: Continuing Check Verification Standard 1
  - Article number: CCV-1-B
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier: High-Purity Standards
    PO Box 41727 Charleston, SC 29423 United States
    Telephone: +1-843-767-7900
    Fax: +1-843-767-7906
    highpuritystandards.com
    Email: info@highpuritystandards.com
  - Information department: Product safety department
  - Emergency telephone number: INFOTRAC
    Emergency telephone numbers 1-800-535-5053
    Other emergency telephone numbers 1-352-323-3500

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
      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.

(Contd. on page 2)
Trade name: Continuing Check Verification Standard 1

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
  - PAC-1:
    | Chemical  | Concentration (mg/m³) |
    |-----------|-----------------------|
    | 7440-23-5 sodium | 13                        |
    | 7440-21-3 silicon | 45                        |
    | 7783-20-2 ammonium sulphate | 13                        |

(Contd. of page 3)
Trade name: Continuing Check Verification Standard 1

<table>
<thead>
<tr>
<th>PAC-2:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-23-5 sodium</td>
<td></td>
<td>140 mg/m³</td>
</tr>
<tr>
<td>7440-21-3 silicon</td>
<td></td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>7783-20-2 ammonium sulphate</td>
<td></td>
<td>140 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-3:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-23-5 sodium</td>
<td></td>
<td>870 mg/m³</td>
</tr>
<tr>
<td>7440-21-3 silicon</td>
<td></td>
<td>630 mg/m³</td>
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<tr>
<td>7783-20-2 ammonium sulphate</td>
<td></td>
<td>840 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.
### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information on basic physical and chemical properties</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td>Appearance:</td>
<td></td>
</tr>
<tr>
<td>Form: Liquid</td>
<td></td>
</tr>
<tr>
<td>Color: colorless</td>
<td></td>
</tr>
<tr>
<td>Odor: Characteristic</td>
<td></td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>100 °C (212 °F)</td>
</tr>
<tr>
<td>Flash point:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gaseous):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<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>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Upper: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure at 20 °C (68 °F):</td>
<td>23 hPa (17.3 mm Hg)</td>
</tr>
<tr>
<td>Density at 20 °C (68 °F):</td>
<td>1.00074 g/cm³ (8.35118 lbs/gal)</td>
</tr>
<tr>
<td>Bulk density:</td>
<td>1,001 kg/m³</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>
<tr>
<td>Solubility in / Miscibility with Water:</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity:</td>
<td></td>
</tr>
<tr>
<td>Dynamic: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Kinematic: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Solvent content:</td>
<td></td>
</tr>
<tr>
<td>Water: 99.8 %</td>
<td></td>
</tr>
</tbody>
</table>
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)
    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.
  - Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
### 49.4.11 Additional ecological information:

- **General notes:** 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, ADR, IMDG, IATA** not regulated
- **UN proper shipping name**
  - **DOT, ADR, IMDG, IATA** not regulated
- **Transport hazard class(es)**
  - **DOT, ADR, ADN, IMDG, IATA** not regulated
  - **Class** not regulated
- **Packing group**
  - **DOT, ADR, 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):**
      - 7783-20-2 ammonium sulphate
    - **TSCA (Toxic Substances Control Act):**
      - All components have the value ACTIVE.
### Hazardous Air Pollutants
None of the ingredients is 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)**
  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

- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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.

- **Department issuing SDS:** Environment protection department.

- **Contact:**
  High-Purity Standards
  Tel: 843-767-7900
  Fax: 843-767-7906

- **Date of preparation / last revision** 09/20/2019 / -

- **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
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>