1 Identification

· Product identifier
  · Trade name: Initial Check Verification Standard 1 Solution A
  · Article number: ICV-1 Solution A

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    High-Purity Standards
    P.O. Box 41727
    Charleston, SC 29423
    Telephone: (843) 767-7900
    FAX: (843) 767-7906

· 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 GHS07

· 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.
  H314 Causes severe skin burns and eye damage.

(Contd. on page 2)
Trade name: Initial Check Verification Standard 1 Solution A

· 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 3
    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.

· Dangerous components:

<table>
<thead>
<tr>
<th>Chemical Identification</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2 nitric acid</td>
<td>4.0%</td>
</tr>
<tr>
<td>7664-39-3 Hydrofluoric acid</td>
<td>0.49%</td>
</tr>
<tr>
<td>7757-79-1 potassium nitrate</td>
<td>0.02%</td>
</tr>
<tr>
<td>7782-49-2 selenium</td>
<td>0.02%</td>
</tr>
<tr>
<td>7722-76-1 Ammonium dihydrogenphosphate</td>
<td>0.02%</td>
</tr>
<tr>
<td>7440-48-4 cobalt</td>
<td>0.01%</td>
</tr>
</tbody>
</table>

(Contd. on page 3)
Trade name: Initial Check Verification Standard 1 Solution A

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-50-8</td>
<td>copper</td>
<td>0.01%</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>iron</td>
<td>0.01%</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>lead</td>
<td>0.01%</td>
</tr>
<tr>
<td>7439-93-4</td>
<td>magnesium</td>
<td>0.01%</td>
</tr>
<tr>
<td>7439-98-7</td>
<td>molybdenum</td>
<td>0.01%</td>
</tr>
<tr>
<td>7440-02-0</td>
<td>nickel</td>
<td>0.01%</td>
</tr>
<tr>
<td>10043-33-3</td>
<td>boric acid</td>
<td>0.01%</td>
</tr>
<tr>
<td>10042-76-9</td>
<td>strontium nitrate</td>
<td>0.01%</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
<td>0.01%</td>
</tr>
<tr>
<td>7440-69-9</td>
<td>bismuth</td>
<td>0.01%</td>
</tr>
<tr>
<td>7439-93-2</td>
<td>lithium</td>
<td>0.01%</td>
</tr>
<tr>
<td>471-34-1</td>
<td>calcium carbonate</td>
<td>0.01%</td>
</tr>
<tr>
<td>7440-38-2</td>
<td>arsenic</td>
<td>0.01%</td>
</tr>
<tr>
<td>7429-90-5</td>
<td>aluminium</td>
<td>0.01%</td>
</tr>
<tr>
<td>7440-47-3</td>
<td>chromium</td>
<td>0.005%</td>
</tr>
<tr>
<td>7440-43-9</td>
<td>cadmium (non-pyrophoric)</td>
<td>0.005%</td>
</tr>
<tr>
<td>19049-40-2</td>
<td>Beryllium acetate, basic</td>
<td>0.005%</td>
</tr>
<tr>
<td>6156-78-1</td>
<td>Manganese(II) acetate tetrahydrate</td>
<td>0.005%</td>
</tr>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
<td>0.005%</td>
</tr>
<tr>
<td>7803-53-6</td>
<td>Ammonium Vanadate</td>
<td>0.005%</td>
</tr>
<tr>
<td>7440-66-6</td>
<td>zinc</td>
<td>0.005%</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>water, distilled, conductivity or of similar purity</td>
<td>95.265%</td>
</tr>
</tbody>
</table>

### 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.
Trade name: Initial Check Verification Standard 1 Solution A

- Special hazards arising from the substance or mixture
  During heating or in case of fire poisonous gases are produced.
- Advice for firefighters
- Protective equipment: Mouth respiratory protective device.

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

  PAC-1:
<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>nitric acid</td>
<td>0.16 ppm</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrofluoric acid</td>
<td>1.0 ppm</td>
</tr>
<tr>
<td>7757-79-1</td>
<td>potassium nitrate</td>
<td>9 mg/m³</td>
</tr>
<tr>
<td>7782-49-2</td>
<td>selenium</td>
<td>0.6 mg/m³</td>
</tr>
<tr>
<td>7722-76-1</td>
<td>Ammonium dihydrogenphosphate</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
<td>0.18 mg/m³</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>copper</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>iron</td>
<td>3.2 mg/m³</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>lead</td>
<td>0.15 mg/m³</td>
</tr>
<tr>
<td>7439-95-4</td>
<td>magnesium</td>
<td>18 mg/m³</td>
</tr>
<tr>
<td>7439-98-7</td>
<td>molybdenum</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td>7440-02-0</td>
<td>nickel</td>
<td>4.5 mg/m³</td>
</tr>
<tr>
<td>10043-33-3</td>
<td>boric acid</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>10042-76-9</td>
<td>strontium nitrate</td>
<td>5.7 mg/m³</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
<td>0.06 mg/m³</td>
</tr>
<tr>
<td>7440-69-9</td>
<td>bismuth</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>7439-93-2</td>
<td>lithium</td>
<td>3.3 mg/m³</td>
</tr>
<tr>
<td>471-34-1</td>
<td>calcium carbonate</td>
<td>45 mg/m³</td>
</tr>
<tr>
<td>7440-38-2</td>
<td>arsenic</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>7440-47-3</td>
<td>chromium</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>7440-43-9</td>
<td>cadmium (non-pyrophoric)</td>
<td>0.10 mg/m³</td>
</tr>
<tr>
<td>6156-78-1</td>
<td>Manganese(II) acetate tetrahydrate</td>
<td>13 mg/m³</td>
</tr>
</tbody>
</table>

(Contd. on page 5)
### Trade name: Initial Check Verification Standard 1 Solution A

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>CAS Name</th>
<th>Concentration (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
<td>2.2 mg/m³</td>
</tr>
<tr>
<td>7803-55-6</td>
<td>Ammonium Vanadate</td>
<td>0.01 mg/m³</td>
</tr>
<tr>
<td>7440-66-6</td>
<td>zinc</td>
<td>6 mg/m³</td>
</tr>
</tbody>
</table>

**PAC-2:**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>CAS Name</th>
<th>Concentration (mg/m³)</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>7757-79-1</td>
<td>potassium nitrate</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>7782-49-2</td>
<td>selenium</td>
<td>6.6 mg/m³</td>
</tr>
<tr>
<td>7722-76-1</td>
<td>Ammonium dihydrogenphosphate</td>
<td>190 mg/m³</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>copper</td>
<td>33 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>7439-93-4</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>10043-35-3</td>
<td>boric acid</td>
<td>23 mg/m³</td>
</tr>
<tr>
<td>10042-76-9</td>
<td>strontium nitrate</td>
<td>62 mg/m³</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
<td>3.3 mg/m³</td>
</tr>
<tr>
<td>7440-69-9</td>
<td>bismuth</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td>7439-93-2</td>
<td>lithium</td>
<td>36 mg/m³</td>
</tr>
<tr>
<td>471-34-1</td>
<td>calcium carbonate</td>
<td>210 mg/m³</td>
</tr>
<tr>
<td>7440-38-2</td>
<td>arsenic</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td>7440-47-3</td>
<td>chromium</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td>7440-43-9</td>
<td>cadmium (non-pyrophoric)</td>
<td>0.76 mg/m³</td>
</tr>
<tr>
<td>6156-78-1</td>
<td>Manganese(II) acetate tetrahydrate</td>
<td>22 mg/m³</td>
</tr>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
<td>270 mg/m³</td>
</tr>
<tr>
<td>7803-55-6</td>
<td>Ammonium Vanadate</td>
<td>0.11 mg/m³</td>
</tr>
<tr>
<td>7440-66-6</td>
<td>zinc</td>
<td>21 mg/m³</td>
</tr>
</tbody>
</table>

**PAC-3:**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>CAS Name</th>
<th>Concentration (mg/m³)</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>7757-79-1</td>
<td>potassium nitrate</td>
<td>600 mg/m³</td>
</tr>
<tr>
<td>7782-49-2</td>
<td>selenium</td>
<td>40 mg/m³</td>
</tr>
<tr>
<td>7722-76-1</td>
<td>Ammonium dihydrogenphosphate</td>
<td>1,100 mg/m³</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>copper</td>
<td>200 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>7439-93-4</td>
<td>magnesium</td>
<td>1,200 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:**

```plaintext
<table>
<thead>
<tr>
<th>Component</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2 nitric acid</td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td>Long-term value: 5 mg/m³, 2 ppm</td>
</tr>
<tr>
<td>REL</td>
<td>Short-term value: 10 mg/m³, 4 ppm</td>
</tr>
<tr>
<td>TLV</td>
<td>Short-term value: 10 mg/m³, 4 ppm</td>
</tr>
<tr>
<td></td>
<td>Long-term value: 5.2 mg/m³, 2 ppm</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.
  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 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:

![Tightly sealed goggles]

9 Physical and chemical properties
· Information on basic physical and chemical properties
· General Information
· Appearance:
  Form: Liquid
  Color: Grey
· Odor: Characteristic
· Odor threshold: Not determined.
· pH-value: Not determined.
· Change in condition
  Melting point/Melting range: Undetermined.
  Boiling point/Boiling range: 100 °C (212 °F)
### Safety Data Sheet acc. to OSHA HCS

**Trade name:** Initial Check Verification Standard 1 Solution A

| · 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: | Not determined. |
|   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: | Not determined. |
|   Dynamic: | Not determined. |
|   Kinematic: | Not determined. |
| · Solvent content: | |
|   Water: | 95.3 % |
|   VOC content: | 0.00 % |
|   0.0 g/l / 0.00 lb/gal |
| · Solids content: | 0.2 % |
| · 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.
II 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)
    | 7782-49-2 selenium 3 |
    | 7440-48-4 cobalt 2B |
    | 7439-92-1 lead 2B |
    | 7440-02-0 nickel 2B |
    | 7440-38-2 arsenic 2B |
    | 7440-47-3 chromium 3 |
    | 7440-43-9 cadmium (non-pyrophoric) 1 |
    | 19049-40-2 Beryllium acetate, basic 1 |

  - NTP (National Toxicology Program)
    | 7440-48-4 cobalt R |
    | 7439-92-1 lead R |
    | 7440-02-0 nickel R |
    | 7440-38-2 arsenic K |
    | 7440-43-9 cadmium (non-pyrophoric) K |
    | 19049-40-2 Beryllium acetate, basic K |

  - OSHA-Ca (Occupational Safety & Health Administration)
    | 7440-38-2 arsenic |
    | 7440-43-9 cadmium (non-pyrophoric) |
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

· UN proper shipping name
· DOT: Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid, Hydrogen fluoride)
· ADR: 3264 Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid, Hydrogen fluoride)
· IMDG, IATA: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROGEN FLUORIDE)

· Transport hazard class(es)
· DOT

· Class: 8 Corrosive substances
### Trade name: Initial Check Verification Standard 1 Solution A

| · Label | 8 |
| · ADR, IMDG, IATA | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Packing group | III |
| · DOT, ADR, IMDG, IATA | |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Corrosive substances |
| · Danger code (Keimler): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | Acids |
| · Stowage Category | A |
| · Stowage Code | SW2 Clear of living quarters. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · DOT | |
| · Quantity limitations | On passenger aircraft/rail: 5 L |
| | On cargo aircraft only: 60 L |
| · ADR | |
| · Excepted quantities (EQ) | Code: E1 |
| | Maximum net quantity per inner packaging: 30 ml |
| | Maximum net quantity per outer packaging: 1000 ml |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 |
| | Maximum net quantity per inner packaging: 30 ml |
| | Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROGEN FLUORIDE), 8, III |

### 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):

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>nitric acid</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrofluoric acid</td>
</tr>
<tr>
<td>7757-79-1</td>
<td>potassium nitrate</td>
</tr>
<tr>
<td>7782-49-2</td>
<td>selenium</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>copper</td>
</tr>
<tr>
<td>7439-92-1</td>
<td>lead</td>
</tr>
<tr>
<td>7440-02-0</td>
<td>nickel</td>
</tr>
<tr>
<td>10042-76-9</td>
<td>strontium nitrate</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
</tr>
<tr>
<td>7440-38-2</td>
<td>arsenic</td>
</tr>
<tr>
<td>7429-90-5</td>
<td>aluminium</td>
</tr>
<tr>
<td>7440-47-3</td>
<td>chromium</td>
</tr>
<tr>
<td>7440-43-9</td>
<td>cadmium (non-pyrophoric)</td>
</tr>
<tr>
<td>19049-40-2</td>
<td>Beryllium acetate, basic</td>
</tr>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
</tr>
<tr>
<td>7803-55-6</td>
<td>Ammonium Vanadate</td>
</tr>
<tr>
<td>7440-66-6</td>
<td>zinc</td>
</tr>
</tbody>
</table>

### TSCA (Toxic Substances Control Act):

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>nitric acid</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrofluoric acid</td>
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<td>7757-79-1</td>
<td>potassium nitrate</td>
</tr>
<tr>
<td>7782-49-2</td>
<td>selenium</td>
</tr>
<tr>
<td>7722-76-1</td>
<td>Ammonium dihydrogenphosphate</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
</tr>
<tr>
<td>7440-50-8</td>
<td>copper</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>iron</td>
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<td>7439-92-1</td>
<td>lead</td>
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<tr>
<td>7439-95-4</td>
<td>magnesium</td>
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<tr>
<td>7439-98-7</td>
<td>molybdenum</td>
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<tr>
<td>7440-02-0</td>
<td>nickel</td>
</tr>
<tr>
<td>10043-35-3</td>
<td>boric acid</td>
</tr>
<tr>
<td>10042-76-9</td>
<td>strontium nitrate</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
</tr>
<tr>
<td>7440-69-9</td>
<td>bismuth</td>
</tr>
<tr>
<td>7439-93-2</td>
<td>lithium</td>
</tr>
<tr>
<td>471-34-1</td>
<td>calcium carbonate</td>
</tr>
<tr>
<td>7440-38-2</td>
<td>arsenic</td>
</tr>
<tr>
<td>7429-90-5</td>
<td>aluminium</td>
</tr>
</tbody>
</table>
Trade name: Initial Check Verification Standard 1 Solution A

47.1.4

7440-47-3 chromium
7440-43-9 cadmium (non-pyrophoric)
513-77-9 barium carbonate
7803-55-6 Ammonium Vanadate
7440-66-6 zinc
7732-18-5 water, distilled, conductivity or of similar purity

- Proposition 65

- Chemicals known to cause cancer:
  7440-48-4 cobalt
  7439-92-1 lead
  7440-02-0 nickel
  7440-38-2 arsenic
  7440-43-9 cadmium (non-pyrophoric)
  19049-40-2 Beryllium acetate, basic

- 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)

- Chemicals known to cause developmental toxicity:
  7439-92-1 lead
  7440-43-9 cadmium (non-pyrophoric)

- Carcinogenic categories

- EPA (Environmental Protection Agency) (Substances not listed)
  7697-37-2 nitric acid
  7664-39-3 Hydrofluoric acid
  7757-79-1 potassium nitrate
  7722-76-1 Ammonium dihydrogenphosphate
  7440-48-4 cobalt
  7439-89-6 iron
  7439-95-4 magnesium
  7439-98-7 molybdenum
  7440-02-0 nickel
  10042-76-9 strontium nitrate
  7440-28-0 thallium
  7440-69-9 bismuth
  7439-93-2 lithium
  471-34-1 calcium carbonate
  7429-90-5 aluminium
  19049-40-2 Beryllium acetate, basic
**Trade name: Initial Check Verification Standard 1 Solution A**

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6156-78-1</td>
<td>Manganese(II) acetate tetrahydrate</td>
<td></td>
</tr>
<tr>
<td>7803-55-6</td>
<td>Ammonium Vanadate</td>
<td></td>
</tr>
<tr>
<td>7732-18-5</td>
<td>water, distilled, conductivity or of similar purity</td>
<td></td>
</tr>
</tbody>
</table>

- **TLV (Threshold Limit Value established by ACGIH)**
  - 7440-48-4 cobalt A3
  - 7439-92-1 lead A3
  - 7439-98-7 molybdenum A3
  - 7440-02-0 nickel A5
  - 10043-35-3 boric acid A4
  - 7440-38-2 arsenic A1
  - 7429-90-5 aluminium A4
  - 7440-47-3 chromium A4
  - 7440-43-9 cadmium (non-pyrophoric) A2
  - 513-77-9 barium carbonate A4

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  - 7440-02-0 nickel
  - 7440-38-2 arsenic
  - 7440-43-9 cadmium (non-pyrophoric)

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

  - GHS05
  - GHS07

- **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.
  - 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).
## Trade name: Initial Check Verification Standard 1 Solution A

(Contd. of page 14)

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.

### 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** 11/13/2018 / -
- **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
  
  TLV: Threshold Limit Value
  
  PEL: Permissible Exposure Limit
  
  REL: Recommended 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: Initial Check Verification Standard 1
  · Article number: ICV-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 numbers1-800-535-5053
  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.
Trade name: Initial 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

<table>
<thead>
<tr>
<th>PAC-1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>0.20 mg/m³</td>
</tr>
<tr>
<td>7440-23-5</td>
<td>13 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>8.7 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.

- 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: Liquid
    - Color: colorless
  - **Odor:** Characteristic
  - **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 at 20 °C (68 °F):** 1.00017 g/cm³ (8.34642 lbs/gal)
  - **Bulk density:** 1,000 kg/m³
  - **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: 100.0 %
    - VOC content: 0.00 %
    - 0.0 g/l / 0.00 lb/gal
  - **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)
      7664-93-9 sulphuric acid 1
    - NTP (National Toxicology Program)
      7664-93-9 sulphuric acid K
    - 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: Not hazardous for water.
    - Results of PBT and vPvB assessment
      - PBT: Not applicable.
      - vPvB: Not applicable.
## 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

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>not regulated</td>
</tr>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>not regulated</td>
</tr>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>not regulated</td>
</tr>
<tr>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td>Class</td>
<td>not regulated</td>
</tr>
<tr>
<td>Packing group</td>
<td>not regulated</td>
</tr>
<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>not regulated</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):**
      - 7664-93-9 sulphuric acid
    - **Section 313 (Specific toxic chemical listings):**
      - 7664-93-9 sulphuric acid
    - **TSCA (Toxic Substances Control Act):**
      - All components have the value ACTIVE.

- **Hazardous Air Pollutants**
  - None of the ingredients is listed.
Trade name: Initial Check Verification Standard 1

- 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)
    7664-93-9 sulphuric acid A2
  - 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.

- Department issuing SDS: Environment protection department.
- Contact:
  High-Purity Standards
  Tel.: 843-767-7900
  Fax.: 843-767-7906
- Date of preparation / last revision 08/27/2019 / -
- 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
  vPvB: very Persistent and very Bioaccumulative
  NIOSH: National Institute for Occupational Safety
  OSHA: Occupational Safety & Health

(Contd. on page 8)
### Trade name: Initial Check Verification Standard 1

<table>
<thead>
<tr>
<th>TLV: Threshold Limit Value</th>
<th>PEL: Permissible Exposure Limit</th>
<th>REL: Recommended Exposure Limit</th>
</tr>
</thead>
</table>

(Contd. of page 7)