1 Identification

- **Product identifier**
- **Trade name:** 2% Nitric Acid Reagent Blank
- **Article number:** RB-HNO3-2
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** High-Purity Standards
    7221 Investment Drive, North Charleston, SC 29418 United States
    Telephone: +1-843-767-7900
    Fax: +1-843-767-7906
    highpuritystandards.com
    Email: info@highpuritystandards.com
- **Information department:** Product safety department

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

  - GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
  - nitric acid
- **Hazard statements**
  - H290 May be corrosive to metals.
  - 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.

(Contd. on page 2)
## 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

**Dangerous components:**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2 nitric acid</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

**Chemical identification of the substance/preparation**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>water, distilled, conductivity or of similar purity</td>
</tr>
</tbody>
</table>

## 4 First-aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.
- **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.

(Contd. on page 3)
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**
  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:** Dilute with plenty of 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:**
    | 7697-37-2 nitric acid | 0.16 ppm |
  - **PAC-2:**
    | 7697-37-2 nitric acid | 24 ppm |
  - **PAC-3:**
    | 7697-37-2 nitric acid | 92 ppm |

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**

<table>
<thead>
<tr>
<th>Component</th>
<th>Long-term value</th>
<th>Short-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2 nitric acid</td>
<td>5 mg/m³, 2 ppm</td>
<td>10 mg/m³, 4 ppm</td>
</tr>
<tr>
<td>PEL</td>
<td>Long-term value: 5 mg/m³, 2 ppm</td>
<td>Short-term value: 10 mg/m³, 4 ppm</td>
</tr>
<tr>
<td>REL</td>
<td>Long-term value: 5 mg/m³, 2 ppm</td>
<td>Long-term value: 5.2 mg/m³, 2 ppm</td>
</tr>
<tr>
<td>TLV</td>
<td>Long-term value: 5.2 mg/m³, 2 ppm</td>
<td>Short-term value: 10 mg/m³, 4 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
**Trade name:** 2% Nitric Acid Reagent Blank

- **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

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**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
  **General Information**
  - **Appearance:**
    - Form: Liquid
    - Color: colorless
  - **Odor:**
    - Odor: Characteristic
  - **Odor threshold:**
    - Not determined.
  - **pH-value:**
    - Not determined.

- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** 83 °C (181.4 °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):** 1.02515 g/cm³ (8.55488 lbs/gal)

- **Bulk density:** 1,025 kg/m³

- **Relative density**
  - Not determined.

- **Vapor density**
  - Not determined.
### 5.1.3 Other properties

- **Evaporation rate**: Not determined.
- **Solubility in / Miscibility with Water**: Fully miscible.
- **Partition coefficient (n-octanol/water)**: Not determined.
- **Viscosity**:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- **Solvent content**:
  - Water: 98.0 %
  - 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**: Strong caustic effect on skin and mucous membranes.
  - **on the eye**: Strong caustic effect.
  - **Sensitization**: No sensitizing effects known.
- **Additional toxicological information**:
  - The product shows the following dangers according to internally approved calculation methods for preparations:
  - Corrosive
  - Irritant
  - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
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.
  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 packaging:
- Recommendation: Disposal must be made according to official regulations.
- Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
- DOT, ADR, IMDG, IATA: UN3264
### Trade name: 2% Nitric Acid Reagent Blank

<table>
<thead>
<tr>
<th>UN proper shipping name</th>
<th>DOT</th>
<th>ADR</th>
<th>IMDG, IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)</td>
<td>8 Corrosive substances</td>
<td>8 (C1) Corrosive substances</td>
<td>8 Corrosive substances</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport hazard class(es)</th>
<th>DOT</th>
<th>ADR</th>
<th>IMDG, IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>8 Corrosive substances</td>
<td>8 (C1) Corrosive substances</td>
<td>8 Corrosive substances</td>
</tr>
<tr>
<td>Label</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Packing group</th>
<th>DOT, ADR, IMDG, IATA</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>8 Corrosive substances</td>
<td>8 Corrosive substances</td>
</tr>
<tr>
<td>Label</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental hazards:</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special precautions for user</td>
<td>Warning: Corrosive substances</td>
</tr>
<tr>
<td>Hazard identification number (Kemler code):</td>
<td>80</td>
</tr>
<tr>
<td>EMS Number:</td>
<td>F-A,S-B</td>
</tr>
<tr>
<td>Segregation groups</td>
<td>Acids</td>
</tr>
<tr>
<td>Stowage Category</td>
<td>A</td>
</tr>
<tr>
<td>Stowage Code</td>
<td>SW2 Clear of living quarters.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</th>
<th>Not applicable.</th>
</tr>
</thead>
</table>
### Safety Data Sheet
acc. to OSHA HCS

**Trade name:** 2% Nitric Acid Reagent Blank

(Contd. of page 8)

<table>
<thead>
<tr>
<th>Transport/Additional information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>· <strong>ADR</strong></td>
</tr>
<tr>
<td>· Excepted quantities (EQ)</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>
<tr>
<td>· IMDG</td>
</tr>
<tr>
<td>· Limited quantities (LQ)</td>
</tr>
<tr>
<td>5L</td>
</tr>
<tr>
<td>· Excepted quantities (EQ)</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>
<tr>
<td>· <strong>UN &quot;Model Regulation&quot;:</strong></td>
</tr>
<tr>
<td>UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III</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
  - **Section 313 (Specific toxic chemical listings):**
    - 7697-37-2 nitric acid
  - **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.

(Contd. on page 10)
### 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
The product is classified and labeled according to the Globally Harmonized System (GHS).

### Hazard pictograms
GHS05

### Signal word
Danger

### Hazard-determining components of labeling:
- nitric acid

### Hazard statements
- H290 May be corrosive to metals.
- 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).
- 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: 04/03/2020 / -

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
Met. Corr. 1: Corrosive to metals – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1