1 Identification

- Product identifier
- Trade name: Element 2 Stock Tuning Solution (μg/mL)
- Article number: ICP-MS-TS-19
- 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.

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

- 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.
### 47.1.4

**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.

- **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.

#### 3.1. Dangerous components:

<table>
<thead>
<tr>
<th>Substance ID</th>
<th>Substance Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>nitric acid</td>
<td>2.0%</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>hydrochloric acid</td>
<td>0.49%</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>iron</td>
<td>0.0001%</td>
</tr>
<tr>
<td>10043-35-3</td>
<td>boric acid</td>
<td>0.0001%</td>
</tr>
<tr>
<td>7440-55-3</td>
<td>gallium</td>
<td>0.0001%</td>
</tr>
<tr>
<td>554-13-2</td>
<td>lithium carbonate</td>
<td>0.0001%</td>
</tr>
<tr>
<td>12032-20-1</td>
<td>lutetium oxide</td>
<td>0.0001%</td>
</tr>
<tr>
<td>7757-79-1</td>
<td>potassium nitrate</td>
<td>0.0001%</td>
</tr>
<tr>
<td>20765-98-4</td>
<td>Rhodium(III) chloride hydrate</td>
<td>0.0001%</td>
</tr>
<tr>
<td>12060-08-1</td>
<td>scandium oxide</td>
<td>0.0001%</td>
</tr>
<tr>
<td>497-19-8</td>
<td>sodium carbonate</td>
<td>0.0001%</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
<td>0.0001%</td>
</tr>
<tr>
<td>10102-06-4</td>
<td>Uranyl nitrate</td>
<td>0.0001%</td>
</tr>
</tbody>
</table>

(Contd. on page 3)
Trade name: Element 2 Stock Tuning Solution (µg/mL)

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1314-36-9</td>
<td>yttrium oxide</td>
<td>0.0001%</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
<td>0.0001%</td>
</tr>
<tr>
<td>7440-74-6</td>
<td>indium</td>
<td>0.0001%</td>
</tr>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
<td>0.0001%</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>water, distilled, conductivity or of similar purity</td>
<td>97.509%</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.
  · **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.

· **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:** No special measures required.

· **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:**
    | CAS Number | Substance  | Concentration |
    |------------|------------|---------------|
    | 7697-37-2  | nitric acid | 0.16 ppm      |
### Trade name: Element 2 Stock Tuning Solution (μg/mL)

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7647-01-0</td>
<td>hydrochloric acid</td>
<td>1.8 ppm</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>iron</td>
<td>3.2 mg/m³</td>
</tr>
<tr>
<td>10043-35-3</td>
<td>boric acid</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>7440-55-3</td>
<td>gallium</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td>554-13-2</td>
<td>lithium carbonate</td>
<td>3.1 mg/m³</td>
</tr>
<tr>
<td>12042-01-1</td>
<td>lutetium oxide</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td>7757-79-1</td>
<td>potassium nitrate</td>
<td>9 mg/m³</td>
</tr>
<tr>
<td>12060-08-1</td>
<td>scandium oxide</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td>497-19-8</td>
<td>sodium carbonate</td>
<td>7.6 mg/m³</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
<td>0.06 mg/m³</td>
</tr>
<tr>
<td>10102-06-4</td>
<td>Uranyl nitrate</td>
<td>0.99 mg/m³</td>
</tr>
<tr>
<td>1314-36-9</td>
<td>yttrium oxide</td>
<td>3.8 mg/m³</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
<td>0.18 mg/m³</td>
</tr>
<tr>
<td>7440-47-4</td>
<td>indium</td>
<td>0.3 mg/m³</td>
</tr>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
<td>2.2 mg/m³</td>
</tr>
</tbody>
</table>

### PAC-2:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>nitric acid</td>
<td>24 ppm</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>hydrochloric acid</td>
<td>22 ppm</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>iron</td>
<td>35 mg/m³</td>
</tr>
<tr>
<td>10043-35-3</td>
<td>boric acid</td>
<td>23 mg/m³</td>
</tr>
<tr>
<td>7440-55-3</td>
<td>gallium</td>
<td>330 mg/m³</td>
</tr>
<tr>
<td>554-13-2</td>
<td>lithium carbonate</td>
<td>34 mg/m³</td>
</tr>
<tr>
<td>12042-01-1</td>
<td>lutetium oxide</td>
<td>330 mg/m³</td>
</tr>
<tr>
<td>7757-79-1</td>
<td>potassium nitrate</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>12060-08-1</td>
<td>scandium oxide</td>
<td>330 mg/m³</td>
</tr>
<tr>
<td>497-19-8</td>
<td>sodium carbonate</td>
<td>83 mg/m³</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
<td>3.3 mg/m³</td>
</tr>
<tr>
<td>10102-06-4</td>
<td>Uranyl nitrate</td>
<td>5.5 mg/m³</td>
</tr>
<tr>
<td>1314-36-9</td>
<td>yttrium oxide</td>
<td>43 mg/m³</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>7440-47-4</td>
<td>indium</td>
<td>3.3 mg/m³</td>
</tr>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
<td>270 mg/m³</td>
</tr>
</tbody>
</table>

### PAC-3:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>nitric acid</td>
<td>92 ppm</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>hydrochloric acid</td>
<td>100 ppm</td>
</tr>
<tr>
<td>7439-89-6</td>
<td>iron</td>
<td>150 mg/m³</td>
</tr>
<tr>
<td>10043-35-3</td>
<td>boric acid</td>
<td>830 mg/m³</td>
</tr>
<tr>
<td>7440-55-3</td>
<td>gallium</td>
<td>2,000 mg/m³</td>
</tr>
<tr>
<td>554-13-2</td>
<td>lithium carbonate</td>
<td>210 mg/m³</td>
</tr>
<tr>
<td>12042-20-1</td>
<td>lutetium oxide</td>
<td>2,000 mg/m³</td>
</tr>
</tbody>
</table>
Trade name: Element 2 Stock Tuning Solution (μg/mL)

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Material</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7757-79-1</td>
<td>potassium nitrate</td>
<td>600 mg/m³</td>
</tr>
<tr>
<td>12060-08-1</td>
<td>scandium oxide</td>
<td>2,000 mg/m³</td>
</tr>
<tr>
<td>497-19-8</td>
<td>sodium carbonate</td>
<td>500 mg/m³</td>
</tr>
<tr>
<td>7440-28-0</td>
<td>thallium</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td>10102-06-4</td>
<td>Uranyl nitrate</td>
<td>33 mg/m³</td>
</tr>
<tr>
<td>1314-36-9</td>
<td>yttrium oxide</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td>7440-48-4</td>
<td>cobalt</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td>7440-74-6</td>
<td>indium</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td>513-77-9</td>
<td>barium carbonate</td>
<td>1,600 mg/m³</td>
</tr>
</tbody>
</table>

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>CAS Number</th>
<th>Material</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>nitric acid</td>
<td>PEL: 5 mg/m³, 2 ppm&lt;br&gt;REL: 10 mg/m³, 4 ppm&lt;br&gt;Long-term value: 5 mg/m³, 2 ppm&lt;br&gt;Short-term value: 10 mg/m³, 4 ppm&lt;br&gt;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.
· **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: 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.
### 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**:
- **LD/LC50 values that are relevant for classification**:
  
  | 7647-01-0 hydrochloric acid | Oral LD50 900 mg/kg (rabbit) |

- **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:
  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)
    | Substance                      | Category |
    |-------------------------------|----------|
    | 7647-01-0 hydrochloric acid   | 3        |
    | 7440-48-4 cobalt              | 2B       |

  · NTP (National Toxicology Program)
    | Substance | Category |
    |-----------|----------|
    | 7440-48-4 cobalt       | R        |

  · 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:
  Generally 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 packagings:
· Recommendation: Disposal must be made according to official regulations.
## 14 Transport information

### UN-Number

- **DOT, ADR, IMDG, IATA**: UN1760

### UN proper shipping name

- **DOT**: Corrosive liquids, n.o.s. (Nitric acid, Hydrochloric acid)
- **ADR**: 1760 Corrosive liquids, n.o.s. (Nitric acid, Hydrochloric acid)
- **IMDG, IATA**: CORROSIVE LIQUID, N.O.S. (NITRIC ACID, HYDROCHLORIC ACID)

### Transport hazard class(es)

- **DOT**
  - **Class**: 8 Corrosive substances
  - **Label**: 8

- **ADR, IMDG, IATA**
  - **Class**: 8 Corrosive substances
  - **Label**: 8

### Packing group

- **DOT, ADR, IMDG, IATA**: III

### Environmental hazards:

- **Not applicable.**

### Special precautions for user

- **Warning**: Corrosive substances
- **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
Trade name: Element 2 Stock Tuning Solution (μg/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 1760 CORROSIVE LIQUIDS, N.O.S. (NITRIC ACID, HYDROCHLORIC ACID), 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
      - 7647-01-0 hydrochloric acid
    - Section 313 (Specific toxic chemical listings):
      - 7697-37-2 nitric acid
      - 7647-01-0 hydrochloric acid
      - 554-13-2 lithium carbonate
      - 7757-79-1 potassium nitrate
      - 7440-28-0 thallium
      - 7440-48-4 cobalt
      - 513-77-9 barium carbonate
  - TSCA (Toxic Substances Control Act):
    - 7697-37-2 nitric acid
    - 7647-01-0 hydrochloric acid
    - 7439-89-6 iron
    - 10043-35-3 boric acid
    - 7440-55-3 gallium
    - 554-13-2 lithium carbonate
    - 12032-20-1 lutetium oxide
    - 7757-79-1 potassium nitrate
    - 12060-08-1 scandium oxide
    - 497-19-8 sodium carbonate
    - 7440-28-0 thallium
    - 10102-06-4 Uranyl nitrate
    - 1314-36-9 yttrium oxide
    - 7440-48-4 cobalt
    - 7440-74-6 indium
    - 513-77-9 barium carbonate
    - 7732-18-5 water, distilled, conductivity or of similar purity

(Contd. on page 11)
Trade name: Element 2 Stock Tuning Solution (μg/mL)

- Proposition 65
  - Chemicals known to cause cancer:
    - 7440-48-4 cobalt
  - 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:
    - 554-13-2 lithium carbonate

- Carcinogenic categories

| EPA (Environmental Protection Agency) (Substances not listed) | 7697-37-2 nitric acid | 7647-01-0 hydrochloric acid | 7439-89-6 iron | 7440-55-3 gallium | 554-13-2 lithium carbonate | 12032-20-1 lutetium oxide | 7757-79-1 potassium nitrate | 20765-98-4 Rhodium(III) chloride hydrate | 12060-08-1 scandium oxide | 497-19-8 sodium carbonate | 7440-28-0 thallium | 10102-06-4 Uranyl nitrate | 1314-36-9 yttrium oxide | 7440-48-4 cobalt | 7440-74-6 indium | 7732-18-5 water, distilled, conductivity or of similar purity |

- TLV (Threshold Limit Value established by ACGIH)

| 7647-01-0 hydrochloric acid | 10043-35-3 boric acid | 7440-48-4 cobalt | 513-77-9 barium carbonate |

- 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
Trade name: Element 2 Stock Tuning Solution (μg/mL)

- **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.

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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** 01/22/2019 / -
- **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

(Contd. on page 13)
Trade name: Element 2 Stock Tuning Solution (μg/mL)

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