

## Safety Data Sheet

acc. to OSHA HCS

Printing date 05/14/2021

Reviewed on 05/14/2021

### 1 Identification

- **Product identifier**
- **Trade name:** Certified Waste Water Trace Metals F
- **Article number:** CWW-TM-F
- **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
- **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

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*hydrogen fluoride***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.***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.*

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| <b>· Dangerous components:</b>                                |   |          |
|---|---|----------|
| 7697-37-2   | nitric acid   | 10.0%    |
| 7664-39-3   | hydrogen fluoride                                   | 0.49%    |
| <b>· Chemical identification of the substance/preparation</b> |   |          |
| 7732-18-5   | water, distilled, conductivity or of similar purity | 89.433%  |
| 7439-92-1   | lead  | 0.01%    |
| 7440-02-0   | nickel  | 0.01%    |
| 7440-39-3   | barium  | 0.01%    |
| 7440-42-8   | boron   | 0.01%    |
| 7440-47-3   | chromium  | 0.01%    |
| 7440-50-8   | copper  | 0.01%    |
| 7440-66-6   | zinc  | 0.01%    |
| 7440-22-4   | silver  | 0.0025%  |
| 7440-36-0   | antimony  | 0.0025%  |
| 7429-90-5   | aluminium   | 0.00025% |
| 7439-89-6   | iron  | 0.00025% |
| 7439-96-5   | manganese   | 0.00025% |
| 7439-98-7   | molybdenum  | 0.00025% |
| 7440-24-6   | strontium   | 0.00025% |
| 7440-28-0   | thallium  | 0.00025% |
| 7440-48-4   | cobalt  | 0.00025% |
| 7440-62-2   | vanadium  | 0.00025% |
| 7439-97-6   | mercury   | 0.0002%  |
| 7440-43-9   | cadmium   | 0.00005% |
| 7440-41-7   | beryllium   | 0.00005% |

**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.

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- **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:**  
Dilute with plenty of water.  
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:**

|           |                   |                        |
|-----------|-------------------|------------------------|
| 7697-37-2 | nitric acid       | 0.16 ppm               |
| 7664-39-3 | hydrogen fluoride | 1.0 ppm                |
| 7439-92-1 | lead              | 0.15 mg/m <sup>3</sup> |
| 7440-02-0 | nickel            | 4.5 mg/m <sup>3</sup>  |
| 7440-39-3 | barium            | 1.5 mg/m <sup>3</sup>  |
| 7440-42-8 | boron             | 1.9 mg/m <sup>3</sup>  |
| 7440-47-3 | chromium          | 1.5 mg/m <sup>3</sup>  |
| 7440-50-8 | copper            | 3 mg/m <sup>3</sup>    |
| 7440-66-6 | zinc              | 6 mg/m <sup>3</sup>    |
| 7440-22-4 | silver            | 0.3 mg/m <sup>3</sup>  |
| 7440-36-0 | antimony          | 1.5 mg/m <sup>3</sup>  |

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|           |            |                          |
|-----------|------------|--------------------------|
| 7439-89-6 | iron       | 3.2 mg/m <sup>3</sup>    |
| 7439-96-5 | manganese  | 3 mg/m <sup>3</sup>      |
| 7439-98-7 | molybdenum | 30 mg/m <sup>3</sup>     |
| 7440-24-6 | strontium  | 30 mg/m <sup>3</sup>     |
| 7440-28-0 | thallium   | 0.06 mg/m <sup>3</sup>   |
| 7440-48-4 | cobalt     | 0.18 mg/m <sup>3</sup>   |
| 7440-62-2 | vanadium   | 3 mg/m <sup>3</sup>      |
| 7439-97-6 | mercury    | 0.15 mg/m <sup>3</sup>   |
| 7440-38-2 | arsenic    | 1.5 mg/m <sup>3</sup>    |
| 7440-41-7 | beryllium  | 0.0023 mg/m <sup>3</sup> |
| 7440-43-9 | cadmium    | 0.10 mg/m <sup>3</sup>   |
| 7782-49-2 | selenium   | 0.6 mg/m <sup>3</sup>    |

**PAC-2:**

|           |                   |                         |
|-----------|-------------------|-------------------------|
| 7697-37-2 | nitric acid       | 24 ppm                  |
| 7664-39-3 | hydrogen fluoride | 24 ppm                  |
| 7439-92-1 | lead              | 120 mg/m <sup>3</sup>   |
| 7440-02-0 | nickel            | 50 mg/m <sup>3</sup>    |
| 7440-39-3 | barium            | 180 mg/m <sup>3</sup>   |
| 7440-42-8 | boron             | 21 mg/m <sup>3</sup>    |
| 7440-47-3 | chromium          | 17 mg/m <sup>3</sup>    |
| 7440-50-8 | copper            | 33 mg/m <sup>3</sup>    |
| 7440-66-6 | zinc              | 21 mg/m <sup>3</sup>    |
| 7440-22-4 | silver            | 170 mg/m <sup>3</sup>   |
| 7440-36-0 | antimony          | 13 mg/m <sup>3</sup>    |
| 7439-89-6 | iron              | 35 mg/m <sup>3</sup>    |
| 7439-96-5 | manganese         | 5 mg/m <sup>3</sup>     |
| 7439-98-7 | molybdenum        | 330 mg/m <sup>3</sup>   |
| 7440-24-6 | strontium         | 330 mg/m <sup>3</sup>   |
| 7440-28-0 | thallium          | 3.3 mg/m <sup>3</sup>   |
| 7440-48-4 | cobalt            | 2 mg/m <sup>3</sup>     |
| 7440-62-2 | vanadium          | 5.8 mg/m <sup>3</sup>   |
| 7439-97-6 | mercury           | 1.7 mg/m <sup>3</sup>   |
| 7440-38-2 | arsenic           | 17 mg/m <sup>3</sup>    |
| 7440-41-7 | beryllium         | 0.025 mg/m <sup>3</sup> |
| 7440-43-9 | cadmium           | 0.76 mg/m <sup>3</sup>  |
| 7782-49-2 | selenium          | 6.6 mg/m <sup>3</sup>   |

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| · <b>PAC-3:</b> |                   |                         |
|-----------------|-------------------|-------------------------|
| 7697-37-2       | nitric acid       | 92 ppm                  |
| 7664-39-3       | hydrogen fluoride | 44 ppm                  |
| 7439-92-1       | lead              | 700 mg/m <sup>3</sup>   |
| 7440-02-0       | nickel            | 99 mg/m <sup>3</sup>    |
| 7440-39-3       | barium            | 1,100 mg/m <sup>3</sup> |
| 7440-42-8       | boron             | 130 mg/m <sup>3</sup>   |
| 7440-47-3       | chromium          | 99 mg/m <sup>3</sup>    |
| 7440-50-8       | copper            | 200 mg/m <sup>3</sup>   |
| 7440-66-6       | zinc              | 120 mg/m <sup>3</sup>   |
| 7440-22-4       | silver            | 990 mg/m <sup>3</sup>   |
| 7440-36-0       | antimony          | 80 mg/m <sup>3</sup>    |
| 7439-89-6       | iron              | 150 mg/m <sup>3</sup>   |
| 7439-96-5       | manganese         | 1,800 mg/m <sup>3</sup> |
| 7439-98-7       | molybdenum        | 2,000 mg/m <sup>3</sup> |
| 7440-24-6       | strontium         | 2,000 mg/m <sup>3</sup> |
| 7440-28-0       | thallium          | 20 mg/m <sup>3</sup>    |
| 7440-48-4       | cobalt            | 20 mg/m <sup>3</sup>    |
| 7440-62-2       | vanadium          | 35 mg/m <sup>3</sup>    |
| 7439-97-6       | mercury           | 8.9 mg/m <sup>3</sup>   |
| 7440-38-2       | arsenic           | 100 mg/m <sup>3</sup>   |
| 7440-41-7       | beryllium         | 0.1 mg/m <sup>3</sup>   |
| 7440-43-9       | cadmium           | 4.7 mg/m <sup>3</sup>   |
| 7782-49-2       | selenium          | 40 mg/m <sup>3</sup>    |

**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.

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· **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:**

**7697-37-2 nitric acid**

|     |  |
|-----|--|
| PEL | Long-term value: 5 mg/m <sup>3</sup> , 2 ppm   |
| REL | Short-term value: 10 mg/m <sup>3</sup> , 4 ppm<br>Long-term value: 5 mg/m <sup>3</sup> , 2 ppm   |
| TLV | Short-term value: 10 mg/m <sup>3</sup> , 4 ppm<br>Long-term value: 5.2 mg/m <sup>3</sup> , 2 ppm |

**7664-39-3 hydrogen fluoride**

|     |   |
|-----|---|
| PEL | Long-term value: 3 ppm<br>as F  |
| REL | Long-term value: 2.5 mg/m <sup>3</sup> , 3 ppm<br>Ceiling limit value: 5* mg/m <sup>3</sup> , 6* ppm<br>*15-min, as F       |
| TLV | Long-term value: 0.41 mg/m <sup>3</sup> , 0.5 ppm<br>Ceiling limit value: 1.64 mg/m <sup>3</sup> , 2 ppm<br>as F; Skin, BEI |

· **Ingredients with biological limit values:**

**7664-39-3 hydrogen fluoride**

|     |  |
|-----|--|
| BEI | 3 mg/g creatinine<br>Medium: urine<br>Time: prior to shift<br>Parameter: Fluorides (background, nonspecific) |
|     | 10 mg/g creatinine<br>Medium: urine<br>Time: end of shift<br>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.

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· **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:**

|                          |                 |
|--------------------------|-----------------|
| · <b>Form:</b>           | Liquid          |
| · <b>Color:</b>          | colorless       |
| · <b>Odor:</b>           | Characteristic  |
| · <b>Odor threshold:</b> | Not determined. |

· **pH-value:** Not determined.

· **Change in condition**

|                                       |                  |
|---------------------------------------|------------------|
| · <b>Melting point/Melting range:</b> | Undetermined.    |
| · <b>Boiling point/Boiling range:</b> | 83 °C (181.4 °F) |

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

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|   |  |
|---|--|
| · <b>Auto igniting:</b>                           | <i>Product is not selfigniting.</i>                  |
| · <b>Danger of explosion:</b>                     | <i>Product does not present an explosion hazard.</i> |
| · <b>Explosion limits:</b>                        |  |
| <b>Lower:</b>                                     | <i>Not determined.</i>                               |
| <b>Upper:</b>                                     | <i>Not determined.</i>                               |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | <i>23 hPa (17.3 mm Hg)</i>                           |
| · <b>Density:</b>                                 | <i>Not determined.</i>                               |
| · <b>Relative density</b>                         | <i>Not determined.</i>                               |
| · <b>Vapor density</b>                            | <i>Not determined.</i>                               |
| · <b>Evaporation rate</b>                         | <i>Not determined.</i>                               |
| · <b>Solubility in / Miscibility with Water:</b>  | <i>Fully miscible.</i>                               |
| · <b>Partition coefficient (n-octanol/water):</b> | <i>Not determined.</i>                               |
| · <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | <i>Not determined.</i>                               |
| <b>Kinematic:</b>                                 | <i>Not determined.</i>                               |
| · <b>Solvent content:</b>                         |  |
| <b>Water:</b>                                     | <i>89.4 %</i>  |
| <b>VOC content:</b>                               | <i>0.00 %</i>  |
|   | <i>0.0 g/l / 0.00 lb/gal</i>                         |
| <b>Solids content:</b>                            | <i>0.1 %</i>   |
| · <b>Other information</b>                        | <i>No further relevant information available.</i>    |

**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.*

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**11 Toxicological information**

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**7664-39-3 hydrogen fluoride**

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 |
| 7440-47-3 | chromium  | 3  |
| 7440-48-4 | cobalt    | 2B |
| 7439-97-6 | mercury   | 3  |
| 7440-38-2 | arsenic   | 1  |
| 7440-41-7 | beryllium | 1  |
| 7440-43-9 | cadmium   | 1  |
| 7782-49-2 | selenium  | 3  |

· **NTP (National Toxicology Program)**

|           |           |   |
|-----------|-----------|---|
| 7439-92-1 | lead      | R |
| 7440-02-0 | nickel    | R |
| 7440-48-4 | cobalt    | R |
| 7440-38-2 | arsenic   | K |
| 7440-41-7 | beryllium | K |
| 7440-43-9 | cadmium   | K |

· **OSHA-Ca (Occupational Safety & Health Administration)**

|           |         |  |
|-----------|---------|--|
| 7440-38-2 | arsenic |  |
|-----------|---------|--|

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7440-43-9 cadmium

**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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN3264
- **UN proper shipping name**
- **DOT** Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)
- **ADR** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)
- **IMDG, IATA** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

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· **Transport hazard class(es)**

· **DOT**



· **Class** 8 Corrosive substances  
· **Label** 8

· **ADR**



· **Class** 8 (C1) Corrosive substances  
· **Label** 8

· **IMDG, IATA**



· **Class** 8 Corrosive substances  
· **Label** 8

· **Packing group**

· **DOT, ADR, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Corrosive substances

· **Hazard identification number (Kemler code):** 80

· **EMS Number:** F-A,S-B

· **Segregation groups** Acids

· **Stowage Category** B

· **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 1 L  
On cargo aircraft only: 30 L

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|  |   |
|--|---|
| · <b>ADR</b><br>· <b>Excepted quantities (EQ)</b>                                      | <i>Code: E2</i><br><i>Maximum net quantity per inner packaging: 30 ml</i><br><i>Maximum net quantity per outer packaging: 500 ml</i>              |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b> | <i>1L</i><br><i>Code: E2</i><br><i>Maximum net quantity per inner packaging: 30 ml</i><br><i>Maximum net quantity per outer packaging: 500 ml</i> |
| · <b>UN "Model Regulation":</b>  | <i>UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, II</i>   |

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**

|           |                          |
|-----------|--------------------------|
| 7697-37-2 | <i>nitric acid</i>       |
| 7664-39-3 | <i>hydrogen fluoride</i> |

· **Section 313 (Specific toxic chemical listings):**

|           |                          |
|-----------|--------------------------|
| 7697-37-2 | <i>nitric acid</i>       |
| 7664-39-3 | <i>hydrogen fluoride</i> |
| 7439-92-1 | <i>lead</i>              |
| 7440-02-0 | <i>nickel</i>            |
| 7440-39-3 | <i>barium</i>            |
| 7440-47-3 | <i>chromium</i>          |
| 7440-50-8 | <i>copper</i>            |
| 7440-66-6 | <i>zinc</i>              |
| 7440-22-4 | <i>silver</i>            |
| 7440-36-0 | <i>antimony</i>          |
| 7429-90-5 | <i>aluminium</i>         |
| 7439-96-5 | <i>manganese</i>         |
| 7440-28-0 | <i>thallium</i>          |
| 7440-48-4 | <i>cobalt</i>            |
| 7440-62-2 | <i>vanadium</i>          |
| 7439-97-6 | <i>mercury</i>           |
| 7440-38-2 | <i>arsenic</i>           |
| 7440-41-7 | <i>beryllium</i>         |

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|           |          |
|-----------|----------|
| 7440-43-9 | cadmium  |
| 7782-49-2 | selenium |

**· TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

**· Hazardous Air Pollutants**

|           |                   |
|-----------|-------------------|
| 7664-39-3 | hydrogen fluoride |
| 7439-92-1 | lead              |
| 7439-96-5 | manganese         |
| 7440-48-4 | cobalt            |

**· Proposition 65**

**· Chemicals known to cause cancer:**

|           |           |
|-----------|-----------|
| 7439-92-1 | lead      |
| 7440-02-0 | nickel    |
| 7440-48-4 | cobalt    |
| 7440-38-2 | arsenic   |
| 7440-41-7 | beryllium |
| 7440-43-9 | cadmium   |

**· 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 |

**· Chemicals known to cause developmental toxicity:**

|           |         |
|-----------|---------|
| 7439-92-1 | lead    |
| 7439-97-6 | mercury |
| 7440-43-9 | cadmium |

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

|           |           |                       |
|-----------|-----------|-----------------------|
| 7439-92-1 | lead      | B2                    |
| 7440-39-3 | barium    | D, CBD(inh), NL(oral) |
| 7440-42-8 | boron     | I (oral)              |
| 7440-47-3 | chromium  | D                     |
| 7440-50-8 | copper    | D                     |
| 7440-66-6 | zinc      | D, I, II              |
| 7440-22-4 | silver    | D                     |
| 7439-96-5 | manganese | D                     |
| 7439-97-6 | mercury   | D                     |

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|           |           |                         |
|-----------|-----------|-------------------------|
| 7440-38-2 | arsenic   | A                       |
| 7440-41-7 | beryllium | B1, K/L(inh), CBD(oral) |
| 7440-43-9 | cadmium   | B1                      |
| 7782-49-2 | selenium  | D                       |

**· TLV (Threshold Limit Value established by ACGIH)**

|           |            |    |
|-----------|------------|----|
| 7439-92-1 | lead       | A3 |
| 7440-02-0 | nickel     | A5 |
| 7440-39-3 | barium     | A4 |
| 7440-47-3 | chromium   | A4 |
| 7429-90-5 | aluminium  | A4 |
| 7439-98-7 | molybdenum | A3 |
| 7440-48-4 | cobalt     | A3 |
| 7439-97-6 | mercury    | A4 |
| 7440-38-2 | arsenic    | A1 |
| 7440-41-7 | beryllium  | A1 |
| 7440-43-9 | cadmium    | A2 |

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

|           |           |
|-----------|-----------|
| 7440-02-0 | nickel    |
| 7440-38-2 | arsenic   |
| 7440-41-7 | beryllium |
| 7440-43-9 | cadmium   |

· **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

hydrogen fluoride

· **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.

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*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.*

### 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** *05/14/2021 / -*

· **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*

*BEI: Biological Exposure Limit*

*Met. Corr. 1: Corrosive to metals – Category 1*

*Acute Tox. 4: Acute toxicity – Category 4*

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*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*  
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

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US