1 Identification

· Product identifier
  · Trade name: 10-12-6
  · Article number: 10-12-6

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    High-Purity Standards
    Address P.O. Box 41727 Charleston, SC 29423 United States
    Telephone +1-843-767-7900
    Fax +1-843-767-7906
    Website 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

  Skin Corr. 1A H314 Causes severe skin burns and 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:
  hydrochloric acid

· Hazard statements
  H314 Causes severe skin burns and eye damage.

· Precautionary statements
  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.
47. Specific treatment (see on this label).
Wash contaminated clothing before reuse.
Store locked up.
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:
  7647-01-0 hydrochloric acid 2.0%

· Chemical identification of the substance/preparation
  10060-12-5 chromium(III) chloride, hexahydrate 0.001%
  7732-18-5 water, distilled, conductivity or of similar purity 97.999%

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**

<table>
<thead>
<tr>
<th>PAC-1</th>
<th>Hydrochloric acid</th>
<th>PAC-2: 7647-01-0</th>
<th>Chromium(III) chloride, hexahydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>7647-01-0</td>
<td>1.8 ppm</td>
<td>10060-12-5</td>
<td>7.7 mg/m³</td>
</tr>
<tr>
<td>PAC-2: 7647-01-0</td>
<td>Hydrochloric acid</td>
<td>PAC-3: 7647-01-0</td>
<td>Chromium(III) chloride, hexahydrate</td>
</tr>
<tr>
<td>22 ppm</td>
<td>100 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAC-3: 7647-01-0</td>
<td>Hydrochloric acid</td>
<td>10060-12-5</td>
<td>Chromium(III) chloride, hexahydrate</td>
</tr>
<tr>
<td>100 ppm</td>
<td>260 mg/m³</td>
<td></td>
<td></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.
Trade name: 10-12-6

- 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>Substance</th>
<th>PEL Ceiling limit value</th>
<th>REL Ceiling limit value</th>
<th>TLV Ceiling limit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7647-01-0 hydrochloric acid</td>
<td>7 mg/m³, 5 ppm</td>
<td>7 mg/m³, 5 ppm</td>
<td>2.98 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 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.
### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - Form: Liquid
    - Color: Light 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)
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.
- **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)
- **Density:**
  - Not determined.
  - Relative density: Not determined.
  - Vapor density: Not determined.
  - Evaporation rate: Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- **Solvent content:**
  - Water: 98.0 %

(Contd. of page 6)
10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**: No decomposition if used according to specifications.
- **Thermal decomposition / conditions to be avoided**: No 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.
      - Sensitization: No sensitizing effects known.
    - **Additional toxicological information**:
      The product shows the following dangers according to internally approved calculation methods for preparations:
      - Corrosive
      - 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)
    - 7647-01-0 hydrochloric acid
      - 3
  - NTP (National Toxicology Program)
    - None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    - None of the ingredients is listed.

12 Ecological information

- **Toxicity**
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
Trade name: 10-12-6

(Contd. of page 6)

· 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  UN1789
· UN proper shipping name
· DOT  Hydrochloric acid solution
· ADR  1789 Hydrochloric acid solution
· IMDG, IATA  HYDROCHLORIC ACID solution
· Transport hazard class(es)
· DOT

· Class 8 Corrosive substances
· Label 8
· ADR, IMDG, IATA

· Class 8 Corrosive substances
· Label 8

(Contd. on page 8)
Safety Data Sheet
acc. to OSHA HCS

Trade name: 10-12-6

- Packing group
  - DOT, ADR, IMDG, IATA: III
- Environmental hazards:
  - Not applicable.
- Special precautions for user:
  - Warning: Corrosive substances
- Danger code (Kemler):
  - 80
- EMS Number:
  - F-A,S-B
- Segregation groups:
  - Acids
- Stowage Category:
  - E
- 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 1789 HYDROCHLORIC ACID SOLUTION, 8, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 355 (extremely hazardous substances):
      - 7647-01-0 hydrochloric acid
    - Section 313 (Specific toxic chemical listings):
      - 7647-01-0 hydrochloric acid
    - TSCA (Toxic Substances Control Act):
      - 7647-01-0 hydrochloric acid
      - 7732-18-5 water, distilled, conductivity or of similar purity
    - 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.
Trade name: 10-12-6

· 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) (Substances not listed)
    - 7647-01-0 hydrochloric acid
    - 10060-12-5 chromium(III) chloride, hexahydrate
    - 7732-18-5 water, distilled, conductivity or of similar purity

  · TLV (Threshold Limit Value established by ACGIH)
    - 7647-01-0 hydrochloric acid A4

  · 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:
  hydrochloric acid

· Hazard statements
  H314 Causes severe skin burns and eye damage.

· Precautionary statements
  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.
  Store locked up.
  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.
Trade name: 10-12-6

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

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

- **Date of preparation / last revision:** 06/28/2019 / -

- **Abbreviations and acronyms:**
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  ACGIH: American Conference of Governmental Industrial Hygienists
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  NIOSH: National Institute for Occupational Safety
  OSHA: Occupational Safety & Health
  TLV: Threshold Limit Value
  PEL: Permissible Exposure Limit
  REL: Recommended Exposure Limit
  Skin Corr. 1A: Skin corrosion/irritation – Category IA

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