1 Identification

· Product identifier
· Trade name: GC Etchant

· Application of the substance / the mixture Auxiliary for dental technology

· Details of the supplier of the safety data sheet
· Manufacturer/Supplier:
  GC America Inc.
  3737 W. 127th Street
  Alsip, IL 60803
  USA
  sds@gcamerica.com
· Information department: Regulatory Affairs
· Emergency telephone number:
  During normal opening times (Mon.-Fri. 8:00 AM-5:00 PM CST): +1 (708) 597-0900
  Transportation (CHEMTREC®) Emergency Telephone No. +1 (800) 424-9300

2 Hazard identification

· Classification of the substance or mixture
  Skin Corrosion - Category 1B H314 Causes severe skin burns and eye damage.
  Serious Eye Damage - Category 1 H318 Causes serious eye damage.

· Additional information:
  The information provided is in regards to the toxicity and hazard rating(s) of the individual component(s) in the formulation. The associated risk(s) depends on the route(s) of exposure. The hazard rating system is based entirely on the existence of the risk(s) and does not take into account the likelihood of reduced risk(s) through proper usage and handling.

· Label elements
· GHS label elements
  Exempt from requirements - product regulated as a medical device or an in vitro diagnostic medical device.
  The product is classified and labeled according to the Globally Harmonized System (GHS).
· Hazard pictograms

  GHS05

· Signal word Danger

· Hazard-determining components of labeling:
  phosphoric acid

· Hazard statements
  Causes severe skin burns and eye damage.

· Precautionary statements
  Do not breathe dust/fume/gas/mist/vapours/spray.
  Wear protective gloves/protective clothing/eye protection/face protection.

(Contd. on page 2)
Trade name: GC Etchant

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. 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). Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:
- NFPA ratings (scale 0 - 4)
  - Health = 2
  - Fire = 0
  - Reactivity = 0
- HMIS-ratings (scale 0 - 4)
  - Health = 2
  - Fire = 0
  - Reactivity = 0

3 Composition/Information on ingredients

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

- Dangerous components:
  - CAS: 7664-38-2 phosphoric acid 15 - 40% w/w

- Additional information:
  - If a substance is marked with **, then substance is a trade secret. This is allowed under OSHA’s Hazard Communication Standard (HCS) as a trade secret and under GHS as Confidential Business Information (CBI).

4 First aid measures

- Description of first aid measures
- General information:
  - Immediately remove any clothing soiled by the product.
  - If symptoms persist consult doctor.
- After inhalation:
  - Supply fresh air; consult doctor in case of complaints.
  - In case of unconsciousness place patient stably in side position for transportation.
- After skin contact:
  - Immediately wash with water and soap and rinse thoroughly.
  - Seek medical treatment.
- After eye contact:
  - Protect unharmed eye.
  - Rinse opened eye for several minutes under running water.
  - Call a doctor immediately.
- After swallowing:
  - Rinse out mouth and then drink plenty of water.
  - If symptoms persist consult doctor.
Trade name: GC Etchant

5 Firefighting measures

· Extinguishing media
· Suitable extinguishing agents:
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  Use fire fighting measures that suit the environment.
· For safety reasons unsuitable extinguishing agents: Water with full jet
· Special hazards arising from the substance or mixture
  Formation of toxic gases is possible during heating or in case of fire.
· Advice for firefighters
· Protective equipment: Wear self-contained respiratory protective device.
· Additional information
  Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures
  Remove persons from danger area.
  Avoid contact with the eyes and skin.
  Wear protective clothing.
· Environmental precautions:
  Do not allow product to reach sewage system or any water course.
  Inform respective authorities in case of seepage into water course or sewage system.
  Do not allow to penetrate the ground/soil.
  In case of seepage into the ground inform responsible authorities.
· Methods and material for containment and cleaning up:
  Use neutralizing agent.
  Absorb liquid components with liquid-binding material.
  Dispose of the collected material according to regulations.
· 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.

7 Handling and storage

· Handling:
· Precautions for safe handling
  Observe instructions for use.
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
  Avoid contact with the eyes and skin.
· Information about protection against explosions and fires: No special measures required.
Trade name: GC Etchant

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: 7664-38-2 phosphoric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL Short-term value: 3 mg/m³</td>
</tr>
<tr>
<td>Long-term value: 1 mg/m³</td>
</tr>
<tr>
<td>EV Short-term value: 3 mg/m³</td>
</tr>
<tr>
<td>Long-term value: 1 mg/m³</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:
      The usual precautionary measures for handling chemicals should be followed.
      Avoid contact with the eyes and skin.
      Wash hands before breaks and at the end of work.
      Keep away from foodstuffs, beverages and feed.
      Immediately remove all soiled and contaminated clothing.
    - Breathing equipment:
      Suitable respiratory protective device recommended.

- Protection of hands:
  - Protective gloves

- 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.
<table>
<thead>
<tr>
<th>9 Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Information on basic physical and chemical properties</td>
</tr>
<tr>
<td>· General Information</td>
</tr>
<tr>
<td>· Appearance:</td>
</tr>
<tr>
<td>Form: Highly viscous</td>
</tr>
<tr>
<td>Color: Blue</td>
</tr>
<tr>
<td>· Odor: Odorless</td>
</tr>
<tr>
<td>· Odor threshold: Insense of</td>
</tr>
<tr>
<td>· pH-value at 20 °C:</td>
</tr>
<tr>
<td>&lt; 1.6</td>
</tr>
<tr>
<td>· Change in condition</td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
</tr>
<tr>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range: 100 °C</td>
</tr>
<tr>
<td>· Flash point:</td>
</tr>
<tr>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Flammability (solid, gaseous):</td>
</tr>
<tr>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Ignition temperature:</td>
</tr>
<tr>
<td>Undetermined.</td>
</tr>
<tr>
<td>· Decomposition temperature:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>· Auto igniting:</td>
</tr>
<tr>
<td>Product is not self-igniting.</td>
</tr>
<tr>
<td>· Danger of explosion:</td>
</tr>
<tr>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>· Explosion limits:</td>
</tr>
<tr>
<td>Lower: Not determined.</td>
</tr>
<tr>
<td>Upper: Not determined.</td>
</tr>
<tr>
<td>· Vapor pressure:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>· Density at 20 °C: 1.33 g/cm³</td>
</tr>
<tr>
<td>· Relative density:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapor density:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>· Evaporation rate:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>· Solubility in / Miscibility with Water:</td>
</tr>
<tr>
<td>Fully miscible.</td>
</tr>
<tr>
<td>· Partition coefficient (n-octanol/water):</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>· Viscosity:</td>
</tr>
<tr>
<td>Dynamic: Not determined.</td>
</tr>
<tr>
<td>Kinematic: Not determined.</td>
</tr>
<tr>
<td>· Solvent content:</td>
</tr>
<tr>
<td>Water: 49.0 %</td>
</tr>
<tr>
<td>· Solids content:</td>
</tr>
<tr>
<td>13.0 %</td>
</tr>
<tr>
<td>· Other information:</td>
</tr>
<tr>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>
10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**: Stable at ambient temperature.
- **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**: No further relevant information available.
- **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
- **Carcinogenic categories**

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>silicon dioxide</td>
<td>3</td>
</tr>
<tr>
<td>Food Blue No. 1</td>
<td>3</td>
</tr>
</tbody>
</table>

- **NTP (National Toxicology Program)**

  None of the ingredients is listed.

- **Carcinogenic categories' legend**:
  - IARC Group 1: The agent is carcinogenic to humans.
  - IARC Group 2A: The agent is probably carcinogenic to humans.
  - IARC Group 2B: The agent is possibly carcinogenic to humans.
  - IARC Group 3: The agent is not classifiable as to its carcinogenicity to humans.
  - IARC Group 4: The agent is probably not carcinogenic to humans.
  - NTP K: Known to be human carcinogen.
  - NTP R: Reasonably anticipated to be human carcinogen.
- **Repeated dose toxicity**: No further relevant information available.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**

  No further relevant information available.
  No further relevant information available.
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 2 (Self-assessment): hazardous for water
    Do not allow product to reach ground water, water course or sewage system.
    Must not reach bodies of water or drainage ditch undiluted or unneutralized.
    Danger to drinking water if even small quantities leak into the ground.
    Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values.
    A low pH-value harms aquatic organisms.
    In the dilution of the use-level the pH-value is considerably increased,
    so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- 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:
    Dispose of contents / container in accordance with local / regional / national / international regulations.

- 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, TDG, IMDG, IATA: UN1805

- UN proper shipping name
  - DOT
  - TDG: 1805 Phosphoric acid solution mixture
  - IMDG, IATA: PHOSPHORIC ACID, SOLUTION mixture

- Transport hazard class(es)
  - DOT
  - Class: 8 Corrosive substances
### Safety Data Sheet

**Trade name:** GC Etchant

<table>
<thead>
<tr>
<th>TDG (Transport dangerous goods):</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class</strong></td>
<td>8 (C1) Corrosive substances</td>
</tr>
<tr>
<td><strong>Label</strong></td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMDG, IATA</th>
<th>8 Corrosive substances</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>Label</strong></td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Packing group</strong></th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT, TDG, IMDG, IATA</td>
<td>III</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Environmental hazards:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marine pollutant:</strong></td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Special precautions for user</strong></th>
<th>Warning: Corrosive substances</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Danger code (Kemler):</strong></td>
<td>80</td>
</tr>
<tr>
<td><strong>EMS Number:</strong></td>
<td>F-A,S-B</td>
</tr>
<tr>
<td><strong>Segregation groups</strong></td>
<td>Acids</td>
</tr>
<tr>
<td><strong>Stowage Category</strong></td>
<td>A</td>
</tr>
</tbody>
</table>

| **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

<table>
<thead>
<tr>
<th><strong>Transport/Additional information:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TDG</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Excepted quantities (EQ)</strong></td>
<td>Code: E1</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
<td></td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>IMDG</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limited quantities (LQ)</strong></td>
<td>5L</td>
</tr>
<tr>
<td><strong>Excepted quantities (EQ)</strong></td>
<td>Code: E1</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
<td></td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
<td></td>
</tr>
</tbody>
</table>

| **UN "Model Regulation":**            | UN 1805 PHOSPHORIC ACID SOLUTION MIXTURE, 8, III |

(Contd. of page 9)
# 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - SARA (Superfund Amendments and Reauthorization Act)
    - **Section 355 (extremely hazardous substances):**
      None of the ingredients is listed.
    - **Section 313 (Specific toxic chemical listings):**
      - phosphoric acid
      - aluminium oxide
  - TSCA ( Toxic Substances Control Act):
    All ingredients are listed.
  - Canadian substance listings:
    - **Canadian Domestic Substances List (DSL)**
      All ingredients are listed.
  - **Canadian Ingredient Disclosure list (limit 0.1%)**
    None of the ingredients is listed.
  - **Canadian Ingredient Disclosure list (limit 1%)**
    - phosphoric acid
    - silicon dioxide
    - aluminium oxide

- **GHS label elements**
  - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
  - ![GHS05](image)
  - **Signal word** Danger
  - **Hazard-determining components of labeling:**
    - phosphoric acid
  - **Hazard statements**
    Causes severe skin burns and eye damage.
  - **Precautionary statements**
    Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. 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). 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

· **Department issuing SDS:** Regulatory Affairs

· **Contact:**
  Regulatory Affairs
  Telephone No. +1 (708) 597-0900
  sds@gcamerica.com

· **Date of preparation / last revision** 03/13/2018 / -

· **Abbreviations and acronyms:**
  - GHS: Globally Harmonized System of Classification and Labelling of Chemicals
  - HCS: Hazard Communication Standard (USA)
  - MSDS: Material Safety Data Sheet
  - SDS: Safety Data Sheet
  - ECHA: European Chemicals Agency
  - OSHA: Occupational Safety and Health Administration (USA)
  - LEL: Lower Explosive Limit
  - UEL: Upper Explosive Limit
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative

· **Sources**
  - Manufacturers' MSDSs/SDSs
  - TOXNET (http://toxnet.nlm.nih.gov/)
  - ECHA (http://echa.europa.eu/)
  - EnviChem (www.echemportal.org)

· **Notes:**
  - CAS Registry Number is a Registered Trademark of the American Chemical Society.
  - CHEMTREC® is a registered service mark of the American Chemistry Council, Inc.
  - * Data compared to the previous version altered. This version replaces all previous versions.

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