1 Identification

· Product identifier
· Trade name: Custom Standard
· Part number: ICUS-7076
· Application of the substance / the mixture Laboratory chemicals
· Details of the supplier of the safety data sheet
· Manufacturer/Supplier:
  ULTRA Scientific, inc.
  250 Smith Street
  North Kingstown, RI  02852
  USA
· Information department:
  Telephone: (401) 294-9400
  Fax: (401) 295-2300
  E-mail: regulatory@ultrasci.com
· Emergency telephone number:
  US: (800) 424-9300
  Outside US: (703) 527-3887

2 Hazard(s) identification

· Classification of the substance or mixture
  GHS07
  Skin Irrit. 2  H315  Causes skin irritation.
  Eye Irrit. 2A  H319  Causes serious eye irritation.

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

  GHS07

· Signal word Warning
· Hazard statements
  Causes skin irritation.
  Causes serious eye irritation.
· Precautionary statements
  Wash thoroughly after handling.
  Wear protective gloves / eye protection / face protection.
  IF ON SKIN: Wash with plenty of water.
  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  Specific treatment (see on this label).
  If skin irritation occurs: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
  Take off contaminated clothing and wash it before reuse.

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

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2 nitric acid</td>
<td>1.98%</td>
</tr>
<tr>
<td>471-34-1 calcium carbonate</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

4 First-aid measures

- Description of first aid measures
- 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. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult 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: No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
Environmental precautions: 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).

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
471-34-1 calcium carbonate 45 mg/m³

PAC-2:
7697-37-2 nitric acid 24 ppm
471-34-1 calcium carbonate 210 mg/m³

PAC-3:
7697-37-2 nitric acid 92 ppm
471-34-1 calcium carbonate 1,300 mg/m³

Handling and storage

Handling:
Precautions for safe handling: No special precautions are necessary if used correctly.
Information about protection against explosions and fires: No special measures required.

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.

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/m³, 2 ppm
REL Short-term value: 10 mg/m³, 4 ppm
Long-term value: 5 mg/m³, 2 ppm
TLV Short-term value: 10 mg/m³, 4 ppm
Long-term value: 5.2 mg/m³, 2 ppm

471-34-1 calcium carbonate
PEL Long-term value: 15* 5** mg/m³
*total dust **respirable fraction
REL Long-term value: 10* 5** mg/m³
*total dust **respirable fraction
Trade name: Custom Standard

<table>
<thead>
<tr>
<th>TLV</th>
<th>TLV withdrawn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</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:** Not required.
- **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: Fluid
    - Color: Colorless
  - **Odor:** Odorless
  - **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.
### 45.0 Properties

- **Ignition temperature:**
  - Not determined.
- **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 mm Hg)
- **Density at 20 °C (68 °F):** 1.02564 g/cm³ (8.559 lbs/gal)
- **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 at 20 °C (68 °F):** 0.952 mPas
  - **Kinematic:** Not determined.
- **Solvent content:**
  - **Organic solvents:** 0.0 %
  - **Water:** 97.0 %
  - **VOC content:** 0.0 g/l / 0.00 lb/gl
- **Solids content:** 1.0 %
- **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:**
  - **LD/LC50 values that are relevant for classification:**
    - 7697-37-2 nitric acid
      - Inhalative LC50/4 h 67 mg/L (rat)
### 471-34-1 calcium carbonate

| Oral | LD50 | 6450 mg/kg (rat) |

**Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.

**Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
- **Irritant**

**Carcinogenic categories**

| IARC (International Agency for Research on Cancer) | None of the ingredients is listed. |
| 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.
- **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.
- **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, IMDG, IATA** UN3264
### Transport hazard class(es)

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

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

### Packing group

- **DOT, IMDG, IATA**
  - Packing group: III

### Environmental hazards:

- Not applicable.

### Special precautions for user

- **Danger code (Kemler):** 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

- **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 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC 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
    - Section 313 (Specific toxic chemical listings):
      - 7697-37-2 nitric acid
  - TSCA (Toxic Substances Control Act):
    - All ingredients are 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.
    - 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
    - GHS07

- Signal word
  - Warning

- Hazard statements
  - Causes skin irritation.
  - Causes serious eye irritation.

- Precautionary statements
  - Wash thoroughly after handling.
  - Wear protective gloves / eye protection / face protection.
  - IF ON SKIN: Wash with plenty of water.
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  - Continue rinsing.
  - Specific treatment (see on this label).
  - If skin irritation occurs: Get medical advice/attention.
  - If eye irritation persists: Get medical advice/attention.
Trade name: Custom Standard

Take off contaminated clothing and wash it before reuse.

- **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.

- **Date of preparation / last revision** 06/26/2017 / -

- **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 Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A