Material Name: Haymaker Tankless Water Heater Descaler

*** Section 1 - Product and Company Identification ***

MSDS #1671E
Catalog Number: 35230, 35231, 35240

Manufacturer Information
HHC Holdings Inc. Phone: 216-267-7100
An Oatey Affiliate
4700 West 160th Street
Cleveland, OH 44135

For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.

*** Section 2 - Hazards Identification ***

GHS Classification:
Eye Damage/Irritation - Category 2A

GHS LABEL ELEMENTS
Symbol(s)

Signal Word
Warning

Hazard Statements
Causes serious eye irritation.

Precautionary Statements
Prevention
Wash thoroughly after handling.
Wear protective gloves/eye protection/face protection.

Response
If on skin: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.
Material Name: Hercules Haymaker Tankless Water Heater Descaler

*** Section 3 - Composition / Information on Ingredients ***

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>40 - 60</td>
</tr>
<tr>
<td>77-92-9</td>
<td>Citric Acid</td>
<td>40 - 60</td>
</tr>
</tbody>
</table>

*** Section 4 - First Aid Measures ***

First Aid: Eyes
Rinse thoroughly with plenty of water, also under the eyelids.

First Aid: Skin
Wash off with warm water and soap.

First Aid: Ingestion
Clean mouth with water and afterwards drink plenty of water.

First Aid: Inhalation
Move to fresh air.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards
See Section 9 for Flammability Properties.
Not flammable.

Hazardous Combustion Products
None known based on information supplied.

Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
None

Fire Fighting Equipment/Instructions
As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

*** Section 6 - Accidental Release Measures ***

Recovery and Neutralization
Prevent further leakage or spillage if safe to do so.

Materials and Methods for Clean-Up
Neutralize with sodium bicarbonate or soda ash. Take up mechanically and collect in suitable container for disposal. After cleaning, flush away traces with water.

Emergency Measures
Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment
Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental Precautions
None.

Prevention of Secondary Hazards
None.
**Section 7 - Handling and Storage**

**Handling Procedures**
Handle in accordance with good industrial hygiene and safety practice.

**Storage Procedures**
Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatibilities**
Strong oxidizing agents.

**Section 8 - Exposure Controls / Personal Protection**

**Component Exposure Limits**
No Exposure guidelines have been established.

**Engineering Measures**
Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

**Personal Protective Equipment: Respiratory**
If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

**Personal Protective Equipment: Hands**
No special protective equipment required.

**Personal Protective Equipment: Eyes**
If splashes are likely to occur, wear goggles.

**Personal Protective Equipment: Skin and Body**
No special protective equipment required.

**Section 9 - Physical & Chemical Properties**

- **Appearance:** Colorless to Yellow
- **Physical State:** Liquid
- **Vapor Pressure:** ND
- **Boiling Point:** 100°C / 212°F
- **Solubility (H2O):** Soluble
- **Evaporation Rate:** ND
- **Viscosity:** 25 cps
- **Flash Point:** NA
- **Upper Flammability Limit:** NA
- **Burning Rate:** NA
- **Odor:** Slight Sugary
- **pH:** 2.5
- **Vapor Density:** ND
- **Melting Point:** ND
- **Specific Gravity:** 1.24
- **VOC:** 0 g/L
- **Octanol/H2O Coeff.:** ND
- **Flash Point Method:** NA
- **Lower Flammability Limit:** NA
- **Auto Ignition:** NA

**Section 10 - Chemical Stability & Reactivity Information**

**Chemical Stability**
This is a stable material.

**Hazardous Reaction Potential**
Will not occur.

**Conditions to Avoid**
None.

**Incompatible Products**
Strong oxidizing agents.
Hazardous Decomposition Products
None known based on information supplied.

*** Section 11 - Toxicological Information ***

Acute Toxicity

Component Analysis - LD50/LC50
Water (7732-18-5)
Oral LD50 Rat >90 mL/kg

Citric Acid (77-92-9)
Oral LD50 Rat >3g/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness
Causes skin irritation.

Potential Health Effects: Eye Critical Damage/ Stimulativeness
Causes serious eye irritation.

Potential Health Effects: Ingestion
No known effect.

Potential Health Effects: Inhalation
No known effect.

Respiratory Organs Sensitization/Skin Sensitization
None expected.

Generative Cell Mutagenicity
This product is not reported to have any mutagenic effects.

Carcinogenicity
A: General Product Information
This product is not reported to have any carcinogenic effects.

B: Component Carcinogenicity
None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Reproductive Toxicity
This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure
This product is not reported to have any specific target organ toxicity single exposure effects.

Specified Target Organ General Toxicity: Repeated Exposure
This product is not reported to have any specific target organ toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard
Not an aspiration hazard.

*** Section 12 - Ecological Information ***

Ecotoxicity
A: General Product Information
This product is not expected to be toxic to aquatic organisms.
Material Name: Hercules Haymaker Tankless Water Heater Descaler

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Citric Acid (77-92-9)

<table>
<thead>
<tr>
<th>Test &amp; Species</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Hr EC50 Daphnia magna</td>
<td>&gt;80 mg/L</td>
</tr>
<tr>
<td>48 Hr EC50 Daphnia magna</td>
<td>&gt;120 mg/L [Static]</td>
</tr>
</tbody>
</table>

Persistence/Degradability
No information available for the product.

Bioaccumulation
No information available for the product.

Mobility in Soil
No information available for the product.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging
Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

DOT Information
Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S (Citric Acid)
Hazard Class: 8
UN/NA Number: UN3265
Packing Group: III
Reportable Qty: N/A

(Exempt from placarding by the US DOT as per 49 CFR 173.154(d) (2)

IMDG Information
Shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S (Citric Acid)
Hazard Class: 8
UN/NA Number: UN3265
Packing Group: III
Reportable Qty: N/A

*** Section 15 - Regulatory Information ***

Regulatory Information

US Federal Regulations

Component Analysis
None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations
Material Name: Hercules Haymaker Tankless Water Heater Descaler

Component Analysis - State
The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
<th>RI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric Acid</td>
<td>77-92-9</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Component Analysis - WHMIS IDL
The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Minimum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric Acid</td>
<td>77-92-9</td>
<td>1 % item 409 (80)</td>
</tr>
</tbody>
</table>

Additional Regulatory Information

Component Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>TSCA</th>
<th>CAN</th>
<th>EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
</tr>
<tr>
<td>Citric Acid</td>
<td>77-92-9</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

Key/Legend
EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References
None

Other Information
NFPA and HMIS:
NFPA Hazard Signal: Health: 0 Flammability: 0 Reactivity: 0
HMIS Hazard Signal: Health: 0 Flammability: 0 Reactivity: 0

Disclaimer:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly do not make warranties, nor assume any liability for its use.

End of Sheet