1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Lime Out Stain Remover</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS #</td>
<td>Mixture</td>
</tr>
<tr>
<td>Product use</td>
<td>Cleaner</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Iron Out dba Summit Brands</td>
</tr>
<tr>
<td>Address</td>
<td>7201 Engle Road</td>
</tr>
<tr>
<td>Phone</td>
<td>260-483-2519</td>
</tr>
<tr>
<td>Emergency Phone</td>
<td>1-800-424-9300 (CHEMTREC)</td>
</tr>
</tbody>
</table>

**Legend**

<table>
<thead>
<tr>
<th>HMIS/NFPA</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Severe</td>
</tr>
<tr>
<td>3</td>
<td>Serious</td>
</tr>
<tr>
<td>2</td>
<td>Moderate</td>
</tr>
<tr>
<td>1</td>
<td>Slight</td>
</tr>
<tr>
<td>0</td>
<td>Minimal</td>
</tr>
</tbody>
</table>

2. Hazards Identification

**Emergency overview**

DANGER -- CORROSIVE

**Potential short term health effects**

- **Routes of exposure**
  - Eye, Skin contact, Inhalation, Ingestion.

- **Eyes**
  - Causes chemical burns. May cause blindness.

- **Skin**
  - Causes chemical burns.

- **Inhalation**
  - May cause respiratory tract irritation.

- **Ingestion**
  - Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

**Target organs**

- Eyes. Respiratory system. Skin.

**Chronic effects**

Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.

**Signs and symptoms**

The product causes burns of eyes, skin and mucous membranes.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>77-92-9</td>
<td>3 - 7</td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
<td>3 - 7</td>
</tr>
<tr>
<td>Lactic Acid</td>
<td>79-33-4</td>
<td>3 - 7</td>
</tr>
</tbody>
</table>

4. First Aid Measures

**First aid procedures**

- **Eye contact**
  - Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

- **Skin contact**
  - Immediately flush with water. Wash with soap and water. Obtain medical attention if irritation persists.

- **Inhalation**
  - If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

- **Ingestion**
  - Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

- **General advice**
  - If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.
5. Fire Fighting Measures

Flammable properties
Not flammable by WHMIS/OSHA criteria.

Extinguishing media
Suitable extinguishing media

Unsuitable extinguishing media
Not available

Protection of firefighters
Specific hazards arising from the chemical
Not available

Protective equipment for firefighters
Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products
May include and are not limited to: Oxides of carbon. Hydrogen chloride.

Explosion data
Sensitivity to mechanical impact
Not available

Sensitivity to static discharge
Not available

6. Accidental Release Measures

Personal precautions
Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.

Methods for containment
Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up
Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

7. Handling and Storage

Handling
Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.

Storage
Keep out of the reach of children. Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Exposure limits</th>
<th>Ingredient(s)</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>ACGIH-TLV</td>
<td>TWA: 10 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA-PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 10 mg/m3</td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>ACGIH-TLV</td>
<td>Ceiling: 2 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA-PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling: 5 ppm</td>
</tr>
<tr>
<td>Lactic Acid</td>
<td>ACGIH-TLV</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA-PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not established</td>
</tr>
<tr>
<td>Engineering controls</td>
<td>Use only under good ventilation conditions or with respiratory protection.</td>
<td></td>
</tr>
<tr>
<td>Personal protective equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye / face protection</td>
<td>Wear chemical goggles.</td>
<td></td>
</tr>
<tr>
<td>Hand protection</td>
<td>Rubber gloves. Confirm with a reputable supplier first.</td>
<td></td>
</tr>
</tbody>
</table>
9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Color</td>
<td>Blue</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>pH</td>
<td>0.46</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash point</td>
<td>None</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.037 (H2O = 1)</td>
</tr>
<tr>
<td>Octanol/water coefficient</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>72.8 cPs</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>Not available</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Do not mix with bleach or any other chemical. Reacts violently with alkaline material. This product may react with reducing agents.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>May include and are not limited to: Oxides of carbon. Hydrogen chloride. Hazardous polymerization does not occur.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td></td>
</tr>
</tbody>
</table>

11. Toxicological Information

**Component analysis - LC50**

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>Not available</td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>935 ppm mouse; 3124 mg/l/4h rat</td>
</tr>
<tr>
<td>Lactic Acid</td>
<td>Not available</td>
</tr>
</tbody>
</table>

**Component analysis - Oral LD50**

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>5040 mg/kg mouse; 3000 mg/kg rat</td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>900 mg/kg rabbit; 700 mg/kg rat</td>
</tr>
<tr>
<td>Lactic Acid</td>
<td>1810 mg/kg guinea pig; 3543 mg/kg rat; 4875 mg/kg mouse</td>
</tr>
</tbody>
</table>

**Effects of acute exposure**

| Eye               | Causes chemical burns. May cause blindness. |
Skin Causes chemical burns.

Inhalation May cause respiratory tract irritation.

Ingestion Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

Sensitization Not classified or listed by IARC, NTP, OSHA and ACGIH.

Chronic effects Not classified or listed by IARC, NTP, OSHA and ACGIH.

Carcinogenicity

<table>
<thead>
<tr>
<th>ACGIH - Threshold Limit Values - Carcinogens</th>
<th>IARC - Group 3 (Not Classifiable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride A4 - Not Classifiable as a Human Carcinogen</td>
<td>Hydrogen chloride Monograph 54 [1992]</td>
</tr>
</tbody>
</table>

Mutagenicity Not classified or listed by IARC, NTP, OSHA and ACGIH.

Reproductive effects Not classified or listed by IARC, NTP, OSHA and ACGIH.

Teratogenicity Not classified or listed by IARC, NTP, OSHA and ACGIH.

12. Ecological Information

Ecotoxicity Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

<table>
<thead>
<tr>
<th>Ecotoxicity - Freshwater Algae Data</th>
<th>Ecotoxicity - Freshwater Fish Species Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic Acid 79-33-4 70 Hr EC50 Selenastrum capricornutum: 3.5 mg/L</td>
<td>77-92-9 96 Hr LC50 Lepomis macrochirus: 1516 mg/L [static] 6747-01-0</td>
</tr>
<tr>
<td>Citric acid 77-92-9 96 Hr LC50 Lepomis macrochirus: 3.6 mg/L; 96 Hr LC50 Gambusia affinis: 282 mg/L</td>
<td>Lactic Acid 79-33-4 96 Hr LC50 Brachydanio rerio: 320 mg/L [semi-static]</td>
</tr>
<tr>
<td>Hydrogen chloride 7647-01-0</td>
<td>7647-01-0</td>
</tr>
</tbody>
</table>

Ecotoxicity - Microtox Data

| Citric acid 77-92-9 15 Min EC50 Photobacterium phosphoreum: 14 mg/L |

Ecotoxicity - Water Flea Data

| Citric acid 77-92-9 72 Hr EC50 Daphnia magna: 120 mg/L |
| Lactic Acid 79-33-4 48 Hr EC50 Daphnia magna: 240 mg/L |

Environmental effects Not available

Aquatic toxicity Not available

Persistence / degradability Not available

Bioaccumulation / accumulation Not available

Partition coefficient Not available

Mobility in environmental media Not available

Chemical fate information Not available

Other adverse effects Not available

13. Disposal Considerations

Waste codes Not available

Disposal instructions Review federal, provincial, and local government requirements prior to disposal.

Waste from residues / unused products Not available

Contaminated packaging Not available
14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:
- Proper shipping name: Corrosive liquids, n.o.s. (1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-)
- Hazard class: 8
- UN number: UN1760
- Packing group: II
- Additional information:
  - Special provisions: B2, IB2, T11, TP2, TP27
  - Packaging exceptions: 154
  - ERG number: 154

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:
- Proper shipping name: CORROSIVE LIQUID, N.O.S. (1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-)
- Hazard class: 8
- UN number: UN1760
- Packing group: II
- Additional information:
  - Special provisions: 16

IATA/ICAO (Air)
Not regulated as dangerous goods.

IMDG (Marine Transport)
Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List
- Citric acid 77-92-9 1 %
- Hydrogen chloride 7647-01-0 1 %

US Federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities
- Hydrogen chloride 7647-01-0 5000 Lb final RQ; 2270 kg final RQ

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs
- Hydrogen chloride 7647-01-0 5000 Lb EPCRA RQ (gas only)

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs
- Hydrogen chloride 7647-01-0 500 Lb TPQ (gas only)

U.S. - CERCLA/SARA - Section 313 - Emission Reporting
- Hydrogen chloride 7647-01-0 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

U.S. - CWA (Clean Water Act) - Hazardous Substances
- Hydrogen chloride 7647-01-0 Present

Occupational Safety and Health Administration (OSHA)
- 29 CFR 1910.1200 hazardous chemical Yes
CERCLA (Superfund) reportable quantity
Hydrogen chloride: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
- Immediate Hazard - Yes
- Delayed Hazard - No
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
Yes

Clean Air Act (CAA)
Not available

Clean Water Act (CWA)
Not available

WHMIS status
Controlled

WHMIS classification
Class E - Corrosive Material

WHMIS labeling

State regulations
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances
Hydrogen chloride 7647-01-0 Present

U.S. - Illinois - Toxic Air Contaminants
Hydrogen chloride 7647-01-0 Present (aerosol)

U.S. - Louisiana - Reportable Quantity List for Pollutants
Hydrogen chloride 7647-01-0 5000 Lb RQ (applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period); 1000 lb RQ (applies to unauthorized emissions based on total mass emitted into the atmosphere)

U.S. - Massachusetts - Right To Know List
Hydrogen chloride 7647-01-0 Extraordinarily hazardous

U.S. - Minnesota - Hazardous Substance List
Hydrogen chloride 7647-01-0 Present

U.S. - New Jersey - Right to Know Hazardous Substance List
Hydrogen chloride 7647-01-0 sn 1012

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
Hydrogen chloride 7647-01-0 5000 Lb RQ (air); 100 lb RQ (land/water)

U.S. - North Carolina - Control of Toxic Air Pollutants
Hydrogen chloride 7647-01-0 0.7 mg/m3 (acute irritants)

U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
Hydrogen chloride 7647-01-0 500 Lb TQ (gas only)

U.S. - Pennsylvania - RTK (Right to Know) List
Hydrogen chloride 7647-01-0 Environmental hazard

U.S. - Rhode Island - Hazardous Substance List
Hydrogen chloride 7647-01-0 Toxic; Flammable

Inventory name
Country(s) or region
Inventory name
On inventory (yes/no)*

Canada
Domestic Substances List (DSL)
Yes

Canada
Non-Domestic Substances List (NDSL)
No

United States & Puerto Rico
Toxic Substances Control Act (TSCA) Inventory
Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
16. Other Information

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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