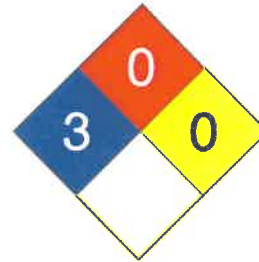


**1. Product and Company Identification**

**Product Name** Lime Out Stain Remover  
**CAS #** Mixture  
**Product use** Calcium and Lime Scale Stain Remover  
**Manufacturer** Iron Out dba Summit Brands  
 7201 Engle Road  
 Fort Wayne, IN 46804-5875 US  
 Phone: 260-483-2519  
 Emergency Phone: 1-800-424-9300 (CHEMTREC)

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 3
Flammability	0
Physical Hazard	0
Personal Protection	B



**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.

**OSHA Regulatory Status** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential environmental effects** Components of this product have been identified as having potential environmental concerns.

**3. Composition / Information on Ingredients**

Ingredient(s)	CAS #	Percent
Citric acid	77-92-9	3 - 7
Hydrogen chloride	7647-01-0	3 - 7
Lactic Acid	79-33-4	3 - 7

**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 cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical advice immediately.

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

**Ingestion** Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

**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

<b>Flammable properties</b>	Not flammable by WHMIS/OSHA criteria.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Dry chemical. Foam. Carbon dioxide. Fog.
<b>Unsuitable extinguishing media</b>	Not available
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Not available
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Hazardous combustion products</b>	May include and are not limited to: Oxides of carbon. Hydrogen chloride.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available
<b>Sensitivity to static discharge</b>	Not available

## 6. Accidental Release Measures

<b>Personal precautions</b>	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.
<b>Environmental precautions</b>	Prevent entry into waterways, sewers, basements or confined areas.
<b>Methods for containment</b>	Stop leak if you can do so without risk.
<b>Methods for cleaning up</b>	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 to original containers for re-use.

## 7. Handling and Storage

<b>Handling</b>	Use good industrial hygiene practices in handling this material. Do not get in eyes, on skin or on clothing. Avoid breathing vapors or mists of this product. Wash thoroughly after handling.
<b>Storage</b>	Keep out of the reach of children. Store in a closed container away from incompatible materials.

## 8. Exposure Controls / Personal Protection

Exposure limits Ingredient(s)	Exposure Limits
Citric acid	<b>ACGIH-TLV</b> TWA: 10 mg/m <sup>3</sup> <b>OSHA-PEL</b> TWA: 10 mg/m <sup>3</sup>
Hydrogen chloride	<b>ACGIH-TLV</b> Ceiling: 2 ppm <b>OSHA-PEL</b> Ceiling: 5 ppm
Lactic Acid	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established

**Engineering controls**

Use only under good ventilation conditions or with respiratory protection.

**Personal protective equipment****Eye / face protection**

Wear chemical goggles.

**Hand protection**

Rubber gloves. Confirm with a reputable supplier first.

**Skin and body protection**

As required by employer code. Rubber apron recommended.

**Respiratory protection**

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

**General hygiene considerations**

Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

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**9. Physical and Chemical Properties**

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<b>Appearance</b>	Clear.
<b>Color</b>	Blue
<b>Form</b>	Liquid
<b>Odor</b>	Lime.
<b>Odor threshold</b>	Not available
<b>Physical state</b>	Liquid
<b>pH</b>	0.6 - 1.1
<b>Melting point</b>	Not available
<b>Freezing point</b>	Not available
<b>Boiling point</b>	Not available
<b>Pour point</b>	Not available
<b>Evaporation rate</b>	Not available
<b>Flash point</b>	None
<b>Auto-ignition temperature</b>	Not available
<b>Flammability limits in air, lower, % by volume</b>	Not available
<b>Flammability limits in air, upper, % by volume</b>	Not available
<b>Vapor pressure</b>	Not available
<b>Vapor density</b>	Not available
<b>Specific gravity</b>	1.01 - 1.05
<b>Octanol/water coefficient</b>	Not available
<b>Viscosity</b>	70 - 125 CPs
<b>Percent volatile</b>	Not available

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**10. Stability and Reactivity**

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<b>Reactivity</b>	Reacts vigorously with alkaline material. This product may react with reducing agents.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Do not mix with bleach or any other chemical.
<b>Incompatible materials</b>	Caustics. Oxidizers. Bases. Reducing agents.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of carbon. Hydrogen chloride.

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**11. Toxicological Information**

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**Component analysis - LC50**

<b>Ingredient(s)</b>	<b>LC50</b>
Citric acid	Not available
Hydrogen chloride	935 ppm mouse; 3124 mg/l/4h rat
Lactic Acid	Not available

**Component analysis - Oral LD50**

Ingredient(s)	LD50
Citric acid	5040 mg/kg mouse; 3000 mg/kg rat
Hydrogen chloride	900 mg/kg rabbit; 700 mg/kg rat
Lactic Acid	1810 mg/kg guinea pig; 3543 mg/kg rat; 4875 mg/kg mouse

**Effects of acute exposure**

<b>Eye</b>	Causes chemical burns. May cause blindness.
<b>Skin</b>	Causes chemical burns.
<b>Inhalation</b>	May cause respiratory tract irritation.
<b>Ingestion</b>	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
<b>Sensitization</b>	Not classified or listed by IARC, NTP, OSHA and ACGIH.
<b>Chronic effects</b>	Not classified or listed by IARC, NTP, OSHA and ACGIH.
<b>Carcinogenicity</b>	See below.
<b>ACGIH - Threshold Limit Values - Carcinogens</b>	
Hydrogen chloride	7647-01-0 A4 - Not Classifiable as a Human Carcinogen
<b>IARC - Group 3 (Not Classifiable)</b>	
Hydrogen chloride	7647-01-0 Monograph 54 [1992]
<b>Mutagenicity</b>	Not classified or listed by IARC, NTP, OSHA and ACGIH.
<b>Reproductive effects</b>	Not classified or listed by IARC, NTP, OSHA and ACGIH.
<b>Teratogenicity</b>	Not classified or listed by IARC, NTP, OSHA and ACGIH.
<b>Name of Toxicologically Synergistic Products</b>	Not available

**12. Ecological Information**

<b>Ecotoxicity</b>	Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.	
<b>Ecotoxicity - Freshwater Algae - Acute Toxicity Data</b>		
Lactic Acid	79-33-4	70 Hr EC50 <i>Pseudokirchneriella subcapitata</i> : 3.5 mg/L
<b>Ecotoxicity - Freshwater Fish - Acute Toxicity Data</b>		
Citric acid	77-92-9	96 Hr LC50 <i>Lepomis macrochirus</i> : 1516 mg/L [static]
Hydrogen chloride	7647-01-0	96 Hr LC50 <i>Gambusia affinis</i> : 282 mg/L [static]
Lactic Acid	79-33-4	96 Hr LC50 <i>Brachydanio rerio</i> : 320 mg/L [semi-static]; 96 Hr LC50 <i>Lepomis macrochirus</i> : 100-180 mg/L [static]; 96 Hr LC50 <i>Oncorhynchus mykiss</i> : 100-180 mg/L [static]
<b>Ecotoxicity - Water Flea - Acute Toxicity Data</b>		
Citric acid	77-92-9	72 Hr EC50 <i>Daphnia magna</i> : 120 mg/L
Lactic Acid	79-33-4	48 Hr EC50 <i>Daphnia magna</i> : 240 mg/L; 48 Hr EC50 <i>Daphnia magna</i> : 180 - 320 mg/L [Static]
<b>Persistence / degradability</b>	Not available	
<b>Bioaccumulation / accumulation</b>	Not available	
<b>Mobility in environmental media</b>	Not available	
<b>Environmental effects</b>	Not available	
<b>Aquatic toxicity</b>	Not available	
<b>Partition coefficient</b>	Not available	
<b>Chemical fate information</b>	Not available	
<b>Other adverse effects</b>	Not available	

**13. Disposal Considerations**

<b>Disposal instructions</b>	Review federal, state/provincial, and local government requirements prior to disposal.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

## 14. Transport Information

### U.S. Department of Transportation (DOT)

#### Basic shipping requirements:

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



### Transportation of Dangerous Goods (TDG - Canada)

#### Basic shipping requirements:

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



## 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 %

<b>WHMIS status</b>	Controlled
<b>WHMIS classification</b>	Class E - Corrosive Material
<b>WHMIS labeling</b>	



### Occupational Safety and Health Administration (OSHA)

<b>29 CFR 1910.1200 hazardous chemical</b>	Yes
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**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

**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

**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**

The data contained in this material safety data sheet was obtained from sources that were technically accurate, reliable, and state of the art when this document was prepared. If data was unavailable to complete certain sections, the absence of that data is identified in this document. Because the supplier cannot know the exact circumstances during actual use of this product, other hazards, exposure scenarios, disposal considerations, and regulations may apply and it is the responsibility of the user to read and understand the product label and this document before use. Do not use the product for purposes other than those stated in Section 1.

**Issue date**

22-Jun-2011

**Effective date**

31-Aug-2011

**Expiry date**

31-Aug-2014

**Prepared by**

Dell Tech Laboratories Ltd. (519) 858-5021

**Other information**

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.