1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: BREX CONCENTRATE
Recommended use: Cleaning agent
Information on Manufacturer:
CHEMSEARCH DIV. OF NCH CORP.
BOX 152170
IRVING, TX 75015

Product Code: 0028
Chemical nature: Aqueous solution Acidic

Emergency Telephone Number:
CHEMTREC® 800-424-9300
Telephone inquiry: 972-579-2477

2. HAZARD IDENTIFICATION

Color: Colorless - Amber
Physical State: Liquid
Odor: Pungent

GHS Classification
Physical Hazards
- Substances/mixtures corrosive to metal: Category 1

Health Hazard
- Acute Oral Toxicity: Category 4
- Acute Inhalation Toxicity - Dusts and Mists: Category 4
- Skin Corrosion/Irritation: Category 1
- Serious Eye Damage/Eye Irritation: Category 1

Other hazards: None

Labeling
Signal Word: DANGER

Hazard Statements
- H314 - Causes severe skin burns and eye damage
- H332 - Harmful if inhaled
- H302 - Harmful if swallowed
- H290 - May be corrosive to metals

Precautionary Statements
- P280 - Wear protective gloves, protective clothing, eye protection and face protection.
- P264 - Wash face, hands and any exposed skin thoroughly after handling.
- P260 - Do not breathe mist
- P270 - Do not eat, drink or smoke when using this product
- P332 + P313 - If skin irritation occurs, get medical attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a physician if unwell.
- P406 - Store in a corrosion-resistant container.
- P304 + P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
- P342 + P311 - If experiencing respiratory symptoms, call a physician
- P310 - Immediately call a physician
- P342 + P311 - If skin irritation occurs, get medical attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a physician
- P342 + P311 - If skin irritation occurs, get medical attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P501 - Dispose of contents and container in accordance with applicable regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>10-30</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

**General advice**
Do not get in eyes, on skin or on clothing. Do not breathe mist.

**Eye Contact**
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately.

**Skin Contact**
Remove immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately.

**Inhalation**
Move to fresh air. In case of shortness of breath, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

**Ingestion**
Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.

**Notes to physician**
The product causes burns of eyes, skin and mucous membranes. Control of circulatory system, shock therapy if needed.

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5. FIRE-FIGHTING MEASURES

**Flash Point**
Does not flash

**Flammability Limits in Air %**
Hydrogen, by reaction with metals. Upper 75 Lower 4

**Suitable Extinguishing Media**
Foam. Carbon dioxide (CO2). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Specific hazards arising from the chemical**
Material can create slippery conditions. Contact with metals liberates flammable hydrogen gas.

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**
Health 3 Flammability 1 Instability 0

**HMIS**
Health 3 Flammability 1 Instability 0

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6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions**
Use personal protective equipment. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.

**Environmental Precautions**
Do not flush into surface water or sanitary sewer system.

**Methods for Containment**
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

**Methods for Cleaning Up**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust)

**Neutralizing Agent**
Neutralize with lime milk or soda and flush with plenty of water.

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7. HANDLING AND STORAGE

**Handling**
Do not get in eyes, on skin or on clothing. Do not breathe mist.

**Storage**
Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.

**Storage Temperature**
Minimum 35 °F / 2 °C Maximum 120 °F / 49 °C

**Storage Conditions**
Indoor X Outdoor Heated Refrigerated

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>Ceiling: 2 ppm</td>
<td>Ceiling: 5 ppm</td>
<td>IDLH: 50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling: 7 mg/m³</td>
<td>Ceiling: 5 ppm</td>
</tr>
</tbody>
</table>

**Engineering Measures**
Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

**Personal Protective Equipment**

<table>
<thead>
<tr>
<th>Eye/Face Protection</th>
<th>Tightly fitting safety goggles. Face-shield.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Protection</td>
<td>Wear suitable protective clothing, Impervious gloves.</td>
</tr>
<tr>
<td>Respiratory Protection</td>
<td>In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.</td>
</tr>
</tbody>
</table>

**General Hygiene Considerations**
Wear protective gloves/clothing. Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use.
### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Colorless - Amber</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>&lt; 1</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>0.6 (Butyl acetate=1)</td>
</tr>
<tr>
<td><strong>VOC Content (%)</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>15.4 mmHg @ 70°F</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Completely soluble</td>
</tr>
<tr>
<td><strong>Melting Point/Range</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Boiling Point/Range</strong></td>
<td>220 °F / 104 °C</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>Does not flash</td>
</tr>
<tr>
<td><strong>Autoignition Temperature</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Flammability Limits in Air %</strong></td>
<td>Hydrogen, by reaction with metals. Upper 75 Lower 4</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Non viscous</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Pungent</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Transparent - Hazy</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>1.09</td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>0.7 (Air = 1.0)</td>
</tr>
<tr>
<td><strong>n-Octanol/Water Partition</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Autoignition Temperature</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Melting Point/Range</strong></td>
<td>No data available</td>
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<td><strong>Flash Point</strong></td>
<td>Does not flash</td>
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<td><strong>Autoignition Temperature</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Flammability Limits in Air %</strong></td>
<td>Hydrogen, by reaction with metals. Upper 75 Lower 4</td>
</tr>
</tbody>
</table>

### 10. Stability and Reactivity

- **Chemical Stability**: Stable. Hazardous polymerization does not occur.
- **Conditions to Avoid**: None known
- **Incompatible Products**: Bases, Strong oxidizing agents, Reducing agents, Metals.
- **Hazardous Decomposition Products**: Hydrogen chloride gas, Chlorine gas, Hydrogen, by reaction with metals.
- **Possibility of Hazardous Reactions**: None under normal processing

### 11. Toxicological Information

#### Product Information
The following values are calculated based on chapter 3.1 of the GHS document (Rev. 3, 2009):

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
<th>Draize Test</th>
<th>Target Organ Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oral</strong></td>
<td>No info available</td>
<td>&gt; 5010 mg/kg (Rabbit)</td>
<td>= 3124 ppm (Rat) 1 h</td>
<td>no data available</td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td>No info available</td>
<td>&gt; 700 mg/kg (Rat)</td>
<td>No info available</td>
<td>no data available</td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>No info available</td>
<td>No info available</td>
<td>No info available</td>
<td>no data available</td>
<td>no data available</td>
</tr>
</tbody>
</table>

- **Principle Route of Exposure**: Skin contact, Eye contact, Inhalation.
- **Primary Routes of Entry**: Inhalation
- **Acute Effects**
  - Eyes: Corrosive to the eyes and may cause severe damage including blindness.
  - Skin: Causes skin burns.
  - Inhalation: Harmful by inhalation. Causes burns.
  - Ingestion: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

- **Chronic Toxicity**: Inhaled corrosive substances can lead to a toxic edema of the lungs.
- **Target Organ Effects**: Respiratory system, Eyes, Skin, Teeth.
- **Aggravated Medical Conditions**: Respiratory disorders, Skin disorders.

#### Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute Toxicity</th>
<th>Chronic Toxicity</th>
<th>Carcinogenicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>LD50 Oral: 700 mg/kg (Rat)</td>
<td>LD50 Dermal: &gt; 5010 mg/kg (Rabbit)</td>
<td>LC50 Inhalation: = 3124 ppm (Rat) 1 h</td>
</tr>
</tbody>
</table>

- **Acute Toxicity**
  - **Component**: Hydrochloric acid
  - **LD50 Oral**: 700 mg/kg (Rat)
  - **LD50 Dermal**: > 5010 mg/kg (Rabbit)
  - **LC50 Inhalation**: = 3124 ppm (Rat) 1 h
  - **Draize Test**: no data available
  - **Target Organ Effects**: eyes, respiratory system, skin, teeth

- **Chronic Toxicity**
  - **Component**: Hydrochloric acid
  - **Mutagenicity**: no data available
  - **Sensitization**: no data available
  - **Developmental Toxicity**: no data available
  - **Reproductive Toxicity**: no data available
  - **Target Organ Effects**: eyes, respiratory system, skin, teeth

- **Carcinogenicity**: There are no known carcinogenic chemicals in this product.

### 12. Ecological Information

#### Product Information
No information available.

#### Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
</tr>
</tbody>
</table>
Hydrochloric acid

Perspective and Degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal
Dispose of in accordance with local regulations.

Container Disposal
Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
UN-No: UN1789
Packing Group: II
Reportable Quantity (RQ): Hydrochloric acid, RQ kg= 11816.76
Description: UN1789, Hydrochloric acid solution, 8, PG II

TDG
Hazard Class: 8
UN-No: UN1789
Packing Group: II

ICAO
UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Packing Group: II
Shipping Description: UN1789, Hydrochloric acid solution, 8, PG II

IATA
UN-No: UN1789
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
Packing Group: II
ERG Code: 8L
Shipping Description: UN1789, Hydrochloric acid solution, 8, PG II

IMDG/IMO
Proper Shipping Name: Hydrochloric acid solution
Hazard Class: 8
UN-No: UN1789
Packing Group: II
EmS No.: F-A, S-B
Shipping Description: UN1789, Hydrochloric acid solution, 8, PG II

15. REGULATORY INFORMATION

Inventories
TSCA: Complies
DSL: Complies

U.S. Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>10-30</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 313/312 Hazardous Categorization

<table>
<thead>
<tr>
<th></th>
<th>Acute Health Hazard</th>
<th>Chronic Health Hazard</th>
<th>Fire Hazard</th>
<th>Sudden Release of Pressure Hazard</th>
<th>Reactive Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

CERCLA
<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>5000 lb</td>
<td>500 lb TPQ (gas only) 5000 lb</td>
</tr>
</tbody>
</table>

### 16. OTHER INFORMATION

Prepared By: Angela Hutson  
Supercedes Date: 05/03/2011  
Issuing Date: 01/08/2014  
Reason for Revision: No information available.  
Glossary: No information available.  
List of References: No information available.  

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