CHEMSTAR 2900 ACID

SAFETY DATA SHEET

Section 1. Chemical product and company identification

Product name: CHEMSTAR 2900 ACID
Recommended use and restrictions: Cleaning product

Use only for the purpose on the product label.

Product dilution information: Up to 3 oz/gal or 23 mL/L in water

Supplier's information:
Ecolab Inc. Food & Beverage Division
370 N. Wabasha Street
St. Paul, MN 55102
1-800-392-3392

Code: 913451-01
Date of issue: 15 Feb 2013

EMERGENCY HEALTH INFORMATION:
1-800-328-0026
Outside United States and Canada CALL 1-651-222-5352 (in USA)

Section 2. Hazards identification

GHS Classification:
Product AS SOLD
SKIN CORROSION/IRRITATION - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

Product AT USE DILUTION
SKIN CORROSION/IRRITATION - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

GHS label elements
Signal word: Danger
Symbol:

Hazard statements:
Product AS SOLD: Causes severe skin burns and eye damage.
Product AT USE DILUTION: Causes severe skin burns and eye damage.

Precautionary statements
Prevention:
Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wash hands thoroughly after handling. Do not mix with bleach or other chlorinated products - will cause chlorine gas.

Response:
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Then rinse thoroughly with water.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Then rinse thoroughly with water.
Section 2. Hazards identification

<table>
<thead>
<tr>
<th>Storage</th>
<th>Disposal</th>
<th>Other hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td>See section 13 for waste disposal information.</td>
<td>None known.</td>
</tr>
</tbody>
</table>

d. Continue rinsing. Immediately call a POISON CENTER or physician. Not applicable.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Mixture</th>
</tr>
</thead>
</table>

**Hazardous ingredients**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Concentration Range (%)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULFURIC ACID</td>
<td>20</td>
<td>7664-93-9</td>
</tr>
<tr>
<td>nitric acid</td>
<td>10</td>
<td>7697-37-2</td>
</tr>
</tbody>
</table>

Product AS SOLD

Product AT USE DILUTION

**Hazardous ingredients**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Concentration Range (%)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULFURIC ACID</td>
<td>&lt;0.5</td>
<td>7664-93-9</td>
</tr>
</tbody>
</table>

Section 4. First aid measures

**Eye contact**

Product AS SOLD

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Product AT USE DILUTION

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

**Skin contact**

Product AS SOLD

Take off immediately all contaminated clothing. Rinse skin with water or shower. Get medical attention immediately. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Product AT USE DILUTION

Take off immediately all contaminated clothing. Rinse skin with water or shower. Get medical attention immediately. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Inhalation**

Product AS SOLD

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately.

Product AT USE DILUTION

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately.

**Ingestion**

Product AS SOLD

Get medical attention immediately. Rinse mouth. Do not induce vomiting.

Product AT USE DILUTION

Get medical attention immediately. Rinse mouth. Do not induce vomiting.

**Protection of first-aiders**

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**Notes to physician**

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

See toxicological information (section 11)

Section 5. Fire-fighting measures

**Product AS SOLD**

Suitable fire extinguishing media

Use water spray, fog or foam.

Specific hazards arising from the chemical

In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products
Section 5. Fire-fighting measures

Decomposition products may include the following materials:
- nitrogen oxides
- sulfur oxides

**Specific fire-fighting methods**

- Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters**

- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Product AS SOLD**

- Initiate company's spill response procedures immediately. Keep people out of area. Put on appropriate personal protective equipment (see section 8). Do not touch or walk through spilled material.

**Environmental precautions**

- Avoid contact of spilled material and runoff with soil and surface waterways.

**Methods for cleaning up**

- Follow company's spill procedures. Keep people away from spill. Put on appropriate personal protective equipment (see section 8). Absorb/neutralize liquid material. Use a tool to scoop up solid or absorbed material and put into appropriate labeled container. Use a tool to scoop up solid or absorbed material and place into appropriate labeled waste container. Use a water rinse for final clean-up.

**Product AT USE DILUTION**

- Initiate company's spill response procedures immediately. Keep people out of area. Put on appropriate personal protective equipment (see section 8). Do not touch or walk through spilled material.

- Avoid contact of spilled material and runoff with soil and surface waterways.

- Follow company's spill procedures. Keep people away from spill. Put on appropriate personal protective equipment (see section 8). Absorb/neutralize liquid material. Use a tool to scoop up solid or absorbed material and put into appropriate labeled container. Use a tool to scoop up solid or absorbed material and place into appropriate labeled waste container. Use a water rinse for final clean-up.

Section 7. Handling and storage

**Handling**

- Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Use only with adequate ventilation. Wash thoroughly after handling. Do not mix with bleach or other chlorinated products - will cause chlorine gas.

**Storage**

- Keep out of reach of children.

- Store between the following temperatures: -30 and 45°C

Section 8. Exposure controls/personal protection

**Control parameters**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULFURIC ACID</td>
<td>ACGIH TLV (United States, 3/2012). TWA: 0.2 mg/m³ 8 hours. Form: Thoracic fraction</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 6/2010). TWA: 1 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 6/2009). TWA: 1 mg/m³ 10 hours.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 3/2012).</td>
</tr>
</tbody>
</table>

**nitric acid**
Section 8. Exposure controls/personal protection

### Appropriate engineering controls
- Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

### Personal protection
- **Eye protection**: Use chemical splash goggles. For continued or severe exposure wear a face shield over the goggles.
- **Hand protection**: Use chemical-resistant, impervious gloves.
- **Skin protection**: Use synthetic apron, other protective equipment as necessary to prevent skin contact.
- **Respiratory protection**: A respirator is not needed under normal and intended conditions of product use.
- **Hygiene measures**: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

### Physical and chemical properties

#### Product AS SOLD
- **Physical state**: Liquid.
- **Color**: Red
- **Odor**: Pungent
- **pH**: 0.9 to 1.1 (100%)
- **Flash point**: > 100°C
- **Explosion limits**: Not available.
- **Flammability (solid, gas)**: Not available.
- **Melting point**: Not available.
- **Boiling point**: >100°C (>212°F)
- **Evaporation rate (butyl acetate = 1)**: Not available.

#### Product AT USE DILUTION
- **Physical state**: Liquid.
- **Color**: Pale color
- **Odor**: Faint odor
- **pH**: 1 to 2.3
- **Flash point**: > 100°C
- **Explosion limits**: Not available.
- **Flammability (solid, gas)**: Not available.
- **Melting point**: Not available.
- **Boiling point**: >100°C (>212°F)
- **Evaporation rate (butyl acetate = 1)**: Not available.
## Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.201 to 1.221 (Water = 1)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
</tbody>
</table>

## Section 10. Stability and reactivity

**Product AS SOLD**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Materials to avoid</td>
<td>Extremely reactive or incompatible with the following materials: alkalis. Reactive or incompatible with the following materials: organic materials, metals and moisture. Do not mix with bleach or other chlorinated products - will cause chlorine gas.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>

## Section 11. Toxicological information

**Route of exposure**

- Skin contact
- Eye contact
- Inhalation
- Ingestion

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Product AS SOLD</th>
<th>Product AT USE DILUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptoms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye contact</td>
<td>Adverse symptoms may include the following: pain, watering, redness</td>
<td>Adverse symptoms may include the following: pain, watering, redness</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Adverse symptoms may include the following: pain or irritation, redness, blistering may occur</td>
<td>Adverse symptoms may include the following: pain or irritation, redness, blistering may occur</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Adverse symptoms may include the following: coughing, Respiratory tract irritation</td>
<td>Adverse symptoms may include the following: coughing, Respiratory tract irritation</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Adverse symptoms may include the following: stomach pains</td>
<td>Adverse symptoms may include the following: stomach pains</td>
</tr>
</tbody>
</table>

**Acute toxicity**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Product AS SOLD</th>
<th>Product AT USE DILUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Causes serious eye damage.</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Causes severe burns.</td>
<td>Causes severe burns.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.</td>
<td>May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.</td>
</tr>
<tr>
<td>Ingestion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

May cause burns to mouth, throat and stomach. May cause burns to mouth, throat and stomach.

Toxicity data

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chronic toxicity

- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: No known significant effects or critical hazards.
- **Developmental effects**: No known significant effects or critical hazards.
- **Fertility effects**: No known significant effects or critical hazards.

Section 12. Ecological information

Product AS SOLD

Ecotoxicity

- No known significant effects or critical hazards.

Aquatic and terrestrial toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>sulphuric acid</td>
<td>Acute LC50 22 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>nitric acid</td>
<td>Acute LC50 72 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

Other adverse effects

- No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

Product AS SOLD

- Avoid disposal. Attempt to use product completely in accordance with intended use.
- Disposal should be in accordance with applicable regional, national and local laws and regulations.

RCRA classification

- Unused product is D002 (Corrosive)

Product AT USE DILUTION

- Avoid disposal. Attempt to use product completely in accordance with intended use.
- Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Certain shipping modes or package sizes may have exceptions from the transport regulations. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes.

**DOT**

- DOT Classification: UN3264
- DOT Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid, sulphuric acid)
- Class: 8
- Packing group: II

**IMO/IMDG**

- IMO/IMDG Classification: UN3264
- IMO/IMDG Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid, sulphuric acid)
- Class: 8
- Packing group: II

For transport in bulk, see shipping documents for specific transportation information.
Section 14. Transport information

Product AT USE DILUTION
Not intended for transport.

Section 15. Regulatory information

Product AS SOLD

U.S. Federal regulations

TSCA 8(b) inventory: All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: nitric acid; sulphuric acid
SARA 302/304 emergency planning and notification: nitric acid; sulphuric acid

<table>
<thead>
<tr>
<th>SARA 313</th>
<th>Product name</th>
<th>CAS number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form R - Reporting requirements</td>
<td>nitric acid</td>
<td>7697-37-2</td>
<td>10.305</td>
</tr>
</tbody>
</table>

California Prop. 65: No products were found.

Section 16. Other information

Product AS SOLD

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product AT USE DILUTION</td>
<td>* 3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

National Fire Protection Association (U.S.A.)

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Instability/Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>Special</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Instability/Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>Special</td>
</tr>
</tbody>
</table>

Date of issue: 15 Feb 2013
Prepared by: Regulatory Affairs
1-800-352-5326

Notice to reader
The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.