1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**
**Product Name**
United 817 ESA Descaler for Steam Boilers

**Other means of identification**
**SDS #**
UNITED-817

**Recommended use of the chemical and restrictions on use.**
**Recommended Use**
ESA Descaler for Steam Boilers.

**Uses Advised Against**
For industrial and institutional use only.

**Details of the supplier of the safety data sheet**
**Supplier Address**
United Laboratories, Inc.
320 37th Avenue
St. Charles, IL 60174
www.unitedlabsinc.com
www.unitedlabsinc.ca

**Emergency Telephone Number**
**Company Phone Number**
800-323-2594 (to reorder)

**Emergency Telephone (24 hr)**
INFOTRAC 1-800-535-5053 (North America)
1-352-323-3500 (International)

2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical State</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red liquid</td>
<td>Liquid</td>
<td>Little to no odor</td>
</tr>
</tbody>
</table>

**Classification**

<table>
<thead>
<tr>
<th>Skin irritation</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>Category 4</td>
</tr>
</tbody>
</table>

**Signal Word**
Warning

**Hazard Statements**
Can cause serious eye irritation. Can cause skin irritation. May be harmful if swallowed.

**Precautionary Statements - Prevention**
Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statements - Response
Immediately call a poison center or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

Precautionary Statements - Storage
Store according to local, regional, national and international rules and regulations.

Precautionary Statements - Disposal
Dispose of contents/container in accordance with local, regional, national and international rules and regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td>Proprietary</td>
<td>40-50</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is “proprietary” and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.**

4. FIRST-AID MEASURES

First Aid Measures

**General Advice**
Immediately call a poison center or doctor/physician.

**Eye Contact**
Flush with plenty of cool water for at least 15 minutes. Hold eyelids apart to ensure thorough rinsing of the entire surface of the eye and lids with water. Immediately call a poison center or doctor/physician.

**Skin Contact**
Wash with soap and water. Remove contaminated clothing. If irritation persists, call a physician or poison control center.

**Inhalation**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Apply CPR if needed. Immediately call a poison center or doctor/physician.

**Ingestion**
Rinse mouth. Do not induce vomiting. Call a physician or poison control center immediately. Dink large amounts of water. If vomiting occurs, give fluids again. Never give anything by mouth to a person who is unconscious or convulsing.

**Most important symptoms and effects**

**Symptoms**
If in eyes- irritation, pain, watering or redness. If on skin- mild irritation or redness. Inhalational - no known significant effects or critical hazards. Ingestion-harmful if swallowed. Irritating to mouth, throat and stomach. Any additional important symptoms and effects are described in Section 11.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Water, dry chemical, foam or carbon dioxide.
Unsuitable Extinguishing Media  Not determined.

Specific Hazards Arising from the Chemical
At temperatures above 60°C/140°F acid action on most metals may release hydrogen, a highly flammable and explosive 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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions  Use personal protective equipment as required.

Methods and material for containment and cleaning up

Methods for Containment  Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up  Absorb spills with dry sand or earth, then place in chemical waste container for disposal. Neutralize washings with a base such as soda ash or lime. Flush residual spill area with large amounts of water. Exercise caution during neutralization as considerable heat may be generated.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling  Wash thoroughly after handling. Use personal protection recommended in Section 8. Do not breathe dust/fume/gas/mist/vapors/spray. Note: If diluting, always add this product slowly to water with constant stirring. When diluting always add to water.

Conditions for safe storage, including any incompatibilities

Storage Conditions  Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials. Protect container from physical damage. Keep out of the reach of children.


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines  This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls  Normally not required. Ventilation and local exhaust generally adequate.

Individual protection measures, such as personal protective equipment

Eye/Face Protection  Safety goggles are recommended.

Skin and Body Protection  Chemical resistant gloves (rubber or nitrile) are recommended.
Respiratory Protection  Normally not required if good ventilation is maintained.

General Hygiene Considerations  Handle in accordance with good industrial hygiene and safety practice.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Red liquid</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Red</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Little to no odor</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>-17.5 °C / -0.5 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Boiling Range</td>
<td>100 °C / 212 °F</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
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<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
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<td></td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Liquid-Not applicable</td>
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</tr>
<tr>
<td>Upper Flammability Limits</td>
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<tr>
<td>Lower Flammability Limit</td>
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<tr>
<td>Vapor Pressure</td>
<td>5.65</td>
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<td>Vapor Density</td>
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<td>(Water = 1)</td>
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<tr>
<td>Specific Gravity</td>
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</tr>
<tr>
<td>Water Solubility</td>
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</tr>
<tr>
<td>Solubility in other solvents</td>
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<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
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<td></td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
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<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
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<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
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<td></td>
</tr>
<tr>
<td>VOC Content</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**
Not reactive under normal conditions.

**Chemical Stability**
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**
Under normal conditions of storage and use, hazardous polymerization will not occur.

**Conditions to Avoid**
Exposure to air or moisture over prolonged periods.

**Incompatible Materials**

**Hazardous Decomposition Products**
Nitrogen oxidizers (NOx) and acid mists.

### 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**
Eye Contact: May cause serious eye irritation.

Skin Contact: May cause mild skin irritation.

Inhalation: Avoid breathing vapors or mists. Exposure to decomposition products may cause a health hazard.

Ingestion: Do not taste or swallow. Maybe harmful if swallowed to mouth, throat and stomach.

**Component Information**

**Information on physical, chemical and toxicological effects**

Symptoms: Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure:

Carcinogenicity: Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**Numerical measures of toxicity**

Not determined.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Not determined.

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Not determined.

**Other Adverse Effects**

Not determined.

**13. DISPOSAL CONSIDERATIONS**

**Waste Treatment Methods**

Disposal of Wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging: Disposal should be in accordance with applicable regional, national and local laws and regulations.

**14. TRANSPORT INFORMATION**

**Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances. Exempt under DOT 49 CFR 173.154 (d). This material is corrosive to aluminum only. Not corrosive to mild steel and skin.

**DOT**

Not regulated.
15. REGULATORY INFORMATION

International Inventories

TSCA
All ingredients are listed or exempt from listing on Chemical Substance Inventory.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categories

Acute health hazard          Yes
Chronic health hazard        Yes
Fire hazard                  No
Sudden release of pressure hazard      No
Reactive hazard              No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

US State Regulations

California Proposition 65
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated under applicable state right-to-know regulations.
### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazards</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazards</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>N+P</td>
</tr>
</tbody>
</table>

**Issue Date:** 17-May-2010  
**Revision Date:** 18-May-2016  
**Revision Note:** New format

**Disclaimer**  
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

*End of Safety Data Sheet*