1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**

**Product Name**
United 418 Liquid Oxygen Scavenger

**Other means of identification**

**SDS #**
UNITED-418

**Recommended use of the chemical and restrictions on use**

**Recommended Use**
Controls oxygen pitting in low and high pressure 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

**Appearance**
Clear, pale amber to water, water white liquid

**Physical State**
Liquid

**Odor**
No odor

**Classification**

**Serious eye damage/eye irritation**
Category 1

**Signal Word**
Danger

**Hazard Statements**

Causes serious eye damage.

**Precautionary Statements - Prevention**

Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary Statements - Response**

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.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary</td>
<td>Proprietary</td>
<td>7-13</td>
</tr>
<tr>
<td>Proprietary</td>
<td>Proprietary</td>
<td>5-10</td>
</tr>
<tr>
<td>Proprietary</td>
<td>Proprietary</td>
<td>&lt;5</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

- **Eye Contact**: 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.
- **Skin Contact**: Wash off immediately with plenty of water for at least 15 minutes.
- **Inhalation**: Remove to fresh air.
- **Ingestion**: Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects

- **Symptoms**: Causes serious eye damage.

Indication of any immediate medical attention and special treatment needed

- **Notes to Physician**: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

- Water spray, dry foam, carbon dioxide.

Unsuitable Extinguishing Media

- Not determined.

Specific Hazards Arising from the Chemical

- In the presence of fire, this product may produce sulfur dioxide. May react with active metals (aluminum, zinc and magnesium) liberating hydrogen gas.

- **Hazardous Combustion Products**: When strongly heated, as in a fire, this product may produce carbon dioxide, carbon monoxide and sulfur dioxide.

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

Small spills: Soak up with an inert absorbent and place in designated disposal container. Large spills: Spills should be contained and soaked up with an inert absorbent and place in designated disposal container to await proper treatment or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling

Handle in accordance with good industrial hygiene and safety practice. Wear protective gloves/protective clothing and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions


Incompatible Materials

Strong acids. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary</td>
<td>TWA: 5 mg/m³ (vacated)</td>
<td>TWA: 5 mg/m³ (vacated)</td>
<td>TWA: 5 mg/m³</td>
</tr>
<tr>
<td>Proprietary</td>
<td>TWA: 0.5 mg/m³ Mo respirable fraction</td>
<td>TWA: 5 mg/m³ Mo (vacated)</td>
<td>IDLH: 1000 mg/m³ Mo</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Controls

Provide adequate ventilation and local exhaust is generally adequate. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Chemical safety goggles are recommended. If a splash factor exists; use safety goggles with a face shield.

Skin and Body Protection

Chemical resistant gloves are recommended. Long shirt sleeves are recommended.

Respiratory Protection

IF TLV is exceeded, use a NIOSH/MSHA approved respirator.

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>Clear, pale amber to water, water white liquid</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Pale amber to water white</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6-8</td>
<td></td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>
Boiling Point/Boiling Range  100 °C / 212 °F
Flash Point  None
Evaporation Rate  ~1
Flammability (Solid, Gas)  Liquid-Not applicable
Upper Flammability Limits  N/A
Lower Flammability Limit  N/A
Vapor Pressure  Not determined
Vapor Density  Not determined
Specific Gravity  1.185  (Water = 1)
Water Solubility  Miscible in water
Solubility in other solvents  Not determined
Partition Coefficient  Not determined
Auto-ignition Temperature  Not determined
Decomposition Temperature  Not determined
Kinematic Viscosity  Not determined
Dynamic Viscosity  Not determined
Explosive Properties  Not determined
Oxidizing Properties  Not determined
VOC Content  None

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
Incompatible Materials.

Incompatible Materials
Strong acids. Strong oxidizing agents.

Hazardous Decomposition Products
When heated strongly, as in a fire, may release carbon dioxide, carbon monoxide and sulfur dioxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact  Causes serious eye damage.
Skin Contact  Avoid contact with skin.
Inhalation  Do not inhale.
Ingestion  Do not ingest.

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary</td>
<td>= 820 mg/kg (Rat)</td>
<td>-</td>
<td>&gt; 22 mg/L (Rat) 1 h</td>
</tr>
<tr>
<td>Proprietary</td>
<td>= 1310 mg/kg (Rat)</td>
<td>&gt; 2 g/kg (Rat)</td>
<td>-</td>
</tr>
</tbody>
</table>
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
Group 3 IARC components are "not classifiable as human carcinogens".

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary</td>
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<td>Group 3</td>
<td></td>
<td></td>
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<tr>
<td>Proprietary</td>
<td></td>
<td>Group 3</td>
<td></td>
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<tr>
<td>Proprietary</td>
<td></td>
<td>A3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend
ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 3 IARC components are "not classifiable as human carcinogens"

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.

California Hazardous Waste Status

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary</td>
<td>Toxic</td>
</tr>
</tbody>
</table>
14. TRANSPORT INFORMATION

DOT
Not regulated.

IATA
Available upon request.

IMDG
Available upon request.

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary</td>
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<td>X</td>
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<td>X</td>
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<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Proprietary</td>
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<td>X</td>
<td></td>
<td>Present</td>
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<td>Present</td>
<td>X</td>
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</tr>
<tr>
<td>Proprietary</td>
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<td>X</td>
<td>Present</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

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.

**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**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
16. OTHER INFORMATION

NFPA

Health Hazards: Not determined
Flammability: Not determined
Instability: Not determined
Special Hazards: Not determined

HMIS

Health Hazards: 2
Flammability: 0
Physical Hazards: 0
Personal Protection: N + P

Issue Date: 12-Mar-2008
Revision Date: 10-Feb-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