1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier
Product Name: United 420 CLOSED SYSTEM CONCENTRATE

Other means of identification
SDS #: UNITED-420

Recommended use of the chemical and restrictions on use
Recommended Use: Closed System Concentrate
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: Brown liquid
Physical State: Liquid
Odor: Slight, medicinal odor

Classification

<table>
<thead>
<tr>
<th></th>
<th>Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td></td>
</tr>
<tr>
<td>Eye irritation</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Liquids</td>
<td></td>
</tr>
</tbody>
</table>

Signal Word
Danger

Hazard Statements
Can cause irritation and burns to eyes and skin. May cause respiratory irritation or toxic if swallowed. May be harmful/fatal if inhaled.
Precautionary Statements - Prevention
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. — No smoking

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: Call a poison center or doctor/physician immediately. Rinse mouth. Do not induce vomiting. In case of fire: Use CO2, dry chemical, or foam for extinction.

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

Other Hazards
Toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Nitrite</td>
<td>7632-00-0</td>
<td>30-35</td>
</tr>
<tr>
<td>Sodium Molybdate</td>
<td>10102-40-6</td>
<td>5-15</td>
</tr>
<tr>
<td>Potassium hydroxide</td>
<td>1310-58-3</td>
<td>5-10</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
Immediately flush with plenty of water for at least 15 minutes while holding eyelids open. Immediately call a poison center or doctor/physician.

Skin Contact
Wash with soap and water. If irritation persists, call a physician or poison control center. Remove contaminated shoes and clothes and clean before reuse.

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Immediately call a poison center or doctor/physician.

Ingestion
Call a poison center or doctor/physician immediately. Rinse mouth. Do not induce vomiting. Drink 1 or 2 glasses of water if conscious. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Symptoms
Harmful if swallowed. Fatal if inhaled. Causes severe skin burns and eye damage. May cause cancer.

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 (CO2).

Unsuitable Extinguishing Media  No information available.

Specific Hazards Arising from the Chemical
This product is a water solution of sodium nitrite, a strong oxidizer. Residue left after product evaporation may give off nitrogen oxide fumes or may cause other materials to spontaneously ignite or burn more vigorously than normal.

Hazardous Combustion Products  When strongly heated, as in a fire, this product may produce carbon dioxide, carbon monoxide and oxides of nitrogen.

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.

Environmental Precautions  See Section 12 for additional Ecological Information.

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  Eliminate all sources of ignition. Maintain adequate ventilation. Clean up with a non-flammable absorbent such as clay or vermiculite and place in a labeled, closed metal container for proper disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling  Handle in accordance with good industrial hygiene and safety practice. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear respiratory protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions  Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep away from flammables. Store away from incompatible materials.

Incompatible Materials  Ammonia. Amines. Sulfites. This product should not be added to any system containing residual chemical from sulfite or other oxygen-scavenging treatment program.
8. EXPOSURE CONTROLS/PERSERONAL 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>Sodium Molybdate</td>
<td>7631-95-0</td>
<td>-</td>
<td>0.5 mg/m^3</td>
</tr>
<tr>
<td>Sodium Nitrite</td>
<td>7632-00-0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Potassium Hydroxide</td>
<td>1310-58-3</td>
<td>C: 2mg/m^3</td>
<td>C: 2mg/m^3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>365 mg/kg</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

**Engineering Controls**

Provide adequate ventilation and local exhaust is generally adequate.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection**

Chemical safety goggles are recommended.

**Skin and Body Protection**

Chemical resistant gloves are recommended. Long sleeve shirt and long pants.

**Respiratory Protection**

Ensure adequate ventilation, especially in confined areas. In case of inadequate ventilation or risk of inhalation of vapors, use suitable NIOSH/MSHA approved self-contained breathing apparatus respirator. Avoid breathing in fumes from this product.

**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>Odor</td>
</tr>
<tr>
<td>Appearance</td>
<td>Brown liquid</td>
<td>Slight, medicinal odor</td>
</tr>
<tr>
<td>Color</td>
<td>Brown</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>11.5-12.5</td>
<td></td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>No information available.</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>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Liquid-Not applicable</td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limits</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.18</td>
<td>(Water = 1)</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Completely soluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>No information available.</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>No information available.</td>
<td></td>
</tr>
</tbody>
</table>
Decomposition Temperature  No information available.
Kinematic Viscosity  No information available.
Dynamic Viscosity  No information available.
Explosive Properties  No information available.
Oxidizing Properties  No information available.
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

Hazardous Decomposition Products
When strongly heated, as in a fire, this product produces carbon dioxide, carbon monoxide and oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact  May cause eye irritation.
Skin Contact  May cause skin burns.
Inhalation  Fatal if inhaled.
Ingestion  Harmful if swallowed.

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>Sodium Nitrite 7632-00-0</td>
<td>85 mg/kg (Rat)</td>
<td>-</td>
<td>5.5 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Sodium Molybdate 7631-95-0</td>
<td>4 g/kg (Rat) 4000 mg/kg (Rat)</td>
<td>-</td>
<td>&gt; 2080 mg/m³ (Rat) 4 h</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  May cause cancer.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Nitrite 7632-00-0</td>
<td></td>
<td>Group 2A</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Sodium Molybdate
7631-95-0

Legend
  ACGIH (American Conference of Governmental Industrial Hygienists)
  A3 - Animal Carcinogen
  IARC (International Agency for Research on Cancer)
  Group 2A - Probably Carcinogenic to Humans
  OSHA (Occupational Safety and Health Administration of the US Department of Labor)
  X - Present

Numerical measures of toxicity
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity
No information available.

Persistence/Degradaibility
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other Adverse Effects
No information available.

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>Sodium Nitrite</td>
<td>Toxic</td>
</tr>
<tr>
<td>7632-00-0</td>
<td></td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

Note
Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

<table>
<thead>
<tr>
<th>UN/ID No</th>
<th>Proper Shipping Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3093</td>
<td>Corrosive liquid, oxidizing, n.o.s. (Sodium nitrite, potassium hydroxide)</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>8 (5.1)</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

IATA

<table>
<thead>
<tr>
<th>UN/ID No</th>
<th>Proper Shipping Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3093</td>
<td>Corrosive liquid, oxidizing, n.o.s. (Sodium nitrite, potassium hydroxide)</td>
</tr>
</tbody>
</table>
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>Sodium Nitrite</td>
<td>Present</td>
<td>X</td>
<td></td>
<td>Present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Molybdate</td>
<td>Present</td>
<td>X</td>
<td></td>
<td>Present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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

SARA 313

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Nitrite - 7632-00-0</td>
<td>7632-00-0</td>
<td>3.09 pds of reportable material</td>
</tr>
</tbody>
</table>

US State Regulations

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>Sodium Nitrite</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7632-00-0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

California Proposition 65: No Proposition 65 Carcinogens nor Reproductive Toxins exist in this product.
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></td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</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>3</td>
<td>0</td>
<td>1</td>
<td></td>
<td>N+P</td>
</tr>
</tbody>
</table>

Issue Date: 06-Feb-2015
Revision Date: 25-Apr-2017
Revision Note: Revised

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