1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Product Code 16890
Product Name Linen Supply Detergent

Other means of identification

Recommended use of the chemical and restrictions on use
Use only for the purpose on the product label.

Details of the supplier of the safety data sheet

Manufacturer / Manufactured For
Ross Chemical Systems, Inc.
PO Box 523
Altoona, IA 50009
Phone: (515) 244-1788

Emergency telephone number
24 Hour Emergency Phone Number 1-800-535-5053

2. HAZARDS IDENTIFICATION

Classification

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Warning

Hazard statements
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation

Appearance Clear, Blue
Physical state Liquid
Odor Solvent

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements - Response
Specific Treatment (See Section 4 on the SDS).
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>111-76-2</td>
<td>7-13</td>
<td>*</td>
</tr>
<tr>
<td>Ethylene Glycol Monostearate</td>
<td>107-21-1</td>
<td>3-7</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, see a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Inhalation
If mists/vapors are formed or irritation occurs, leave area and do not return until mists/vapors have dissipated. If irritation persists, see a physician. Give oxygen or artificial respiration as needed.

Ingestion
Rinse mouth. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. If irritation persists, see a physician.

Self-protection of the first aider
Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms
Irritation and central nervous systems effects. Defatting of skin.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical
No Information available.

**Explosion data**
- Sensitivity to Mechanical Impact: None.
- Sensitivity to Static Discharge: None.

**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**
Ensure adequate ventilation, especially in confined areas.

**Environmental precautions**
- Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up**

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

**Methods for cleaning up**
Contain spill. Clean up with inert material and place in a properly labeled container.

### 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling**
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

**Incompatible materials**
Strong acids and oxidizing agents.

### 8. EXPOSURE CONTROLS/PERSOANL PROTECTION

**Control parameters**

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>TWA: 20 ppm</td>
<td>TWA: 50 ppm</td>
<td>IDLH: 700 ppm</td>
</tr>
<tr>
<td>111-76-2</td>
<td>(vacated) TWA: 25 ppm</td>
<td>TWA: 240 mg/m³ (vacated) TWA: 120 mg/m³</td>
<td>TWA: 5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) S*</td>
<td>(vacated) S*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 24 mg/m³</td>
<td>TWA: 240 mg/m³</td>
</tr>
<tr>
<td>2-(2-methoxypropoxy)propano</td>
<td>STEL: 150 ppm</td>
<td>TWA: 100 ppm</td>
<td>IDLH: 600 ppm</td>
</tr>
<tr>
<td>34590-94-8</td>
<td>TWA: 100 ppm</td>
<td>TWA: 600 mg/m³</td>
<td>TWA: 100 ppm</td>
</tr>
<tr>
<td></td>
<td>(vacated) TWA: 100 ppm</td>
<td>(vacated) TWA: 600 mg/m³</td>
<td>TWA: 600 mg/m³</td>
</tr>
<tr>
<td></td>
<td>(vacated) STEL: 150 ppm</td>
<td>(vacated) TWA: 600 mg/m³</td>
<td>STEL: 150 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) STEL: 900 mg/m³</td>
<td>STEL: 900 mg/m³</td>
</tr>
</tbody>
</table>
Other Information
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls
Showers, Eyewash stations & Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin and body protection
Rubber gloves.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators or air purifying respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene
Do not eat, drink or smoke when using this product. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| Physical state | Liquid |
| Appearance     | Clear, Blue |
| Odor           | Solvent |
| Odor threshold | No Information available |

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>7.0 - 8.0</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.041</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>No Information available</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>&gt; 212 ° F</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 202 ° F</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>&lt; 1</td>
<td>(butyl acetate = 1)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>N/D</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>N/D</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>(n-octanol/water)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No Information available</td>
<td></td>
</tr>
</tbody>
</table>

Other Information

Density Lbs/Gal                   | No Information available |
VOC Content (%)                   | 20.27                     |

10. STABILITY AND REACTIVITY
Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.
Possibility of Hazardous Reactions
None under normal processing.
Conditions to avoid
Elevated temperature.
Incompatible materials
Strong acids and oxidizing agents.
Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information
No data available

Inhalation
No data available.

Eye contact
Severely irritating to eyes.

Skin Contact
Irritating to skin.

Ingestion
Harmful if swallowed.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>= 470 mg/kg (Rat)</td>
<td>= 99 mg/kg (Rabbit)</td>
<td>= 450 ppm (Rat) 4 h</td>
</tr>
<tr>
<td>111-76-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-(2-methoxypropoxy)propano</td>
<td>= 5400 µL/kg (Rat)</td>
<td>= 9500 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
<tr>
<td>34590-94-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylene Glycol Monostearate</td>
<td>= 4700 mg/kg (Rat)</td>
<td>= 10600 mg/kg (Rat) = 9530 µL/kg (Rabbit)</td>
<td>-</td>
</tr>
<tr>
<td>107-21-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
No Information available.

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

Sensitization
No Information available.

Germ cell mutagenicity
No Information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>A3</td>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>111-76-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 3 - Not classifiable as a human carcinogen

Reproductive toxicity
No Information available.

STOT - single exposure
No Information available.

STOT - repeated exposure
No Information available.

Chronic toxicity
May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.

Target organ effects
Blood, Central nervous system, EYES, hematopoietic system, Kidney, Liver, Respiratory system, Skin.

Aspiration hazard
No Information available.

Numerical measures of toxicity - Product Information

Page 5 / 8
Unknown Acute Toxicity
0.5% of the mixture consists of ingredient(s) of unknown toxicity.
The following values are calculated based on chapter 3.1 of the GHS document.

12. ECOLOGICAL INFORMATION

Ecotoxicity
57% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol 111-76-2</td>
<td>-</td>
<td>1490: 96 h Lepomis macrochirus mg/L LC50 static 2950: 96 h Lepomis macrochirus mg/L LC50</td>
<td>1000: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>Ethylene Glycol Monostearate 107-21-1</td>
<td>6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50</td>
<td>41000: 96 h Oncorhynchus mykiss mg/L LC50 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static</td>
<td>46300: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>2-(2-methoxypropoxy)propano 34590-94-8</td>
<td>-</td>
<td>10000: 96 h Pimephales promelas mg/L LC50 static</td>
<td>1919: 48 h Daphnia magna mg/L LC50</td>
</tr>
<tr>
<td>Polyethylene Glycol 25322-68-3</td>
<td>-</td>
<td>5000: 24 h Carassius auratus mg/L LC50</td>
<td>-</td>
</tr>
</tbody>
</table>

Persistence and degradability
No Information available.

Bioaccumulation
No Information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol 111-76-2</td>
<td>0.81</td>
</tr>
<tr>
<td>Ethylene Glycol Monostearate 107-21-1</td>
<td>-1.93</td>
</tr>
</tbody>
</table>

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
Do not reuse container.

14. TRANSPORT INFORMATION

The shipping classification information in this section (Section 14) is meant as a guide to the overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under 49 CFR, IATA and IMDG to assure regulatory compliance.

DOT
Not regulated

15. REGULATORY INFORMATION
International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>IECSC</td>
<td>Does not comply</td>
</tr>
<tr>
<td>KECL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Does not comply</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
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>Chemical Name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol - 111-76-2</td>
<td>1.0</td>
</tr>
<tr>
<td>2-(2-methoxypropoxy)propano - 34590-94-8</td>
<td>1.0</td>
</tr>
<tr>
<td>Ethylene Glycol Monostearate - 107-21-1</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

- Acute health hazard: Yes
- Chronic Health Hazard: No
- 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).

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). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol Monostearate 107-21-1</td>
<td>5000 lb</td>
<td>-</td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 2270 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

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>2-butoxyethanol 111-76-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2-(2-methoxypropoxy)propano 34590-94-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Ethylene Glycol Monostearate 107-21-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
</table>

Legend
N/A - Not Applicable
N/E - Not Established
N/D - Not Determined
N/K - Not Known

Revision Date 26-Feb-2015
Revision Note SDS sections updated 24916

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 a 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