1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: BIORENEWABLES INDUSTRIAL DEGREASER
Product Number: 2310C
Recommended Use: Cleaning agent
Uses Advised Against: For Industrial and Institutional Use Only

Manufacturer/Supplier:
Spartan Chemical Company, Inc.
1110 Spartan Drive
Maumee, Ohio 43537 USA
800-537-8990 (Business hours)
www.spartanchemical.com

Canadian Agent:
Perley-Robertson, Hill & McDougall, LLP
340 Albert Street, Suite 1400
Ottawa, ON, Canada K1R 0A5

Medical Emergency/Information: 888-314-6171 (24 Hour)

2. HAZARDS IDENTIFICATION

GHS Classification
Acute Toxicity - Oral: Category 4
Skin Corrosion/Irritation: Category 2
Skin Sensitization: Category 1
Aspiration Toxicity: Category 1
Flammable Liquids: Category 4

GHS Label Elements
Signal Word:
Danger

Symbols:

Hazard Statements:
Harmful if swallowed.
Causes skin irritation.
May cause an allergic skin reaction
May be fatal if swallowed and enters airways
Combustible liquid

Precautionary Statements:
Prevention:
Wash hands and any exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product
Wear eye / face protection
Wear protective gloves
Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Response:
-Skin
IF ON SKIN: Wash with plenty of soap and water Take off contaminated clothing and wash before reuse If skin irritation or rash occurs: Get medical attention.

-Ingestion:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Do NOT induce vomiting. Rinse mouth.

-Specific Treatment:
See Safety Data Sheet Section 4: "FIRST AID MEASURES" for additional information.
Fire: In case of fire: Use CO2, dry chemical, or foam for extinction
Storage: Store locked up. Store in a well-ventilated place. Keep cool
Disposal: Dispose of contents and container in accordance with local, state and federal regulations.

Hazards Not Otherwise Classified: Not Applicable
Other Information: • May cause eye irritation.
• Inhalation of vapors or mist may cause respiratory irritation.
• Contains petroleum distillates. Possible aspiration hazard.
• Mops, towels or rags dampened with this product are combustible and may also be subject to spontaneous combustion. Thoroughly rinse these materials with water to remove product before disposal or discard in special containers designed for this purpose.
• Keep out of reach of children.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soy Methyl Esters</td>
<td>67784-80-9</td>
<td>30-60</td>
</tr>
<tr>
<td>C13-14 Alkane</td>
<td>64742-47-8</td>
<td>30-60</td>
</tr>
<tr>
<td>Undeceth-3</td>
<td>34398-01-1</td>
<td>5-10</td>
</tr>
<tr>
<td>Tall Oil</td>
<td>8002-26-4</td>
<td>1-5</td>
</tr>
<tr>
<td>Limonene</td>
<td>5989-27-5</td>
<td>1-5</td>
</tr>
</tbody>
</table>

The actual concentrations of the components in this product have been withheld as trade secrets.

### 4. FIRST AID MEASURES

- **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
- **Skin Contact:** Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical attention. Wash contaminated clothing before reuse.
- **Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison control center or physician if you feel unwell.
- **Ingestion:** IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person.

**Note to Physicians:** Contains petroleum distillates. Possible aspiration hazard.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Dry chemical, CO2, water spray or regular foam. Move containers from fire area if you can do it without risk.

**Specific Hazards Arising from the Chemical:** Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

**Hazardous Combustion Products:** May include Carbon monoxide Carbon dioxide and other toxic gases or vapors.

**Protective Equipment and Precautions for Firefighters:** Wear MSHA/NIOSH approved self-contained breathing apparatus (SCBA) and full protective gear. Cool fire-exposed containers with water spray.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Environmental Precautions:** Do not rinse spill onto the ground, into storm sewers or bodies of water.

**Methods for Clean-Up:** Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Rags, towels or mops soaked with this product are subject to spontaneous combustion if not handled properly. Thoroughly rinse these materials with water to remove product before disposal or discard in special containers designed for this purpose.
7. HANDLING AND STORAGE

Advice on Safe Handling: Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

Storage Conditions: Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits: None established.

Engineering Controls: Provide good general ventilation. If work practices generate dust, fumes, gas, vapors or mists which expose workers to chemicals above the occupational exposure limits, local exhaust ventilation or other engineering controls should be considered.

Personal Protective Equipment

Eye/Face Protection: Wear splash goggles.

Skin and Body Protection: Wear rubber or other chemical-resistant gloves. (neoprene or nitrile is recommended).

Respiratory Protection: Not required with expected use. If occupational exposure limits are exceeded or respiratory irritation occurs, use of a NIOSH/MSHA approved respirator suitable for the use-conditions and chemicals in Section 3 should be considered.


9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/Physical State:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Light yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Citrus fragrance</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting Point / Freezing Point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Boiling Point / Boiling Range</td>
<td>&gt; 204 °C / 400 °F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>82 °C / 179 °F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&lt; 1 (Butyl acetate = 1)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.862</td>
</tr>
<tr>
<td>Solubility(ies):</td>
<td>Miscible in water</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>No information available.</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity: This material is considered to be non-reactive under normal conditions of use.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Not expected to occur with normal handling and storage.

Conditions to Avoid: Heat, flames and sparks.


Hazardous Decomposition Products: May include carbon monoxide, carbon dioxide (CO2) and other toxic gases or vapors.

11. TOXICOLOGICAL INFORMATION
Likely Routes of Exposure: Eyes, Skin, Ingestion, Inhalation.

Symptoms of Exposure:
- Eye Contact: Pain and redness.
- Skin Contact: Pain, redness and cracking of the skin.
- Inhalation: Nasal discomfort and coughing.
- Ingestion: Pain, nausea, vomiting and diarrhea. Potential for aspiration if swallowed.

Immediate, Delayed, Chronic Effects
Product Information: Data not available or insufficient for classification.

Numerical Measures of Toxicity
The following acute toxicity estimates (ATE) are calculated based on the GHS document.

ATEmix (oral): 1861 mg/kg
ATEmix (dermal): 2857 mg/kg

Component Acute Toxicity 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>C13-14 Alkane 64742-47-8</td>
<td>&gt; 5000 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rabbit)</td>
<td>&gt; 5.2 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Tall Oil 8002-26-4</td>
<td>&gt; 6000 mg/kg (Rat)</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Limonene 5989-27-5</td>
<td>= 5200 mg/kg (Rat) = 4400 mg/kg (Rat)</td>
<td>&gt; 5 g/kg (Rabbit)</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Carcinogenicity: No components present at 0.1% or greater are listed as to being carcinogens by ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/Aquatic Plants</th>
<th>Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>C13-14 Alkane 64742-47-8</td>
<td>Not Available</td>
<td>45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Tall Oil 8002-26-4</td>
<td>0.87: 72 h Pseudokirchneriella subcapitata mg/L EC50</td>
<td>5.0 - 10.0: 96 h Brachydanio rerio mg/L LC50 static</td>
<td>Not Available</td>
<td>39.7: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>Limonene 5989-27-5</td>
<td>Not Available</td>
<td>0.619 - 0.796: 96 h Pimephales promelas mg/L LC50 flow-through 35: 96 h Oncorhynchus mykiss mg/L LC50</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Persistence and Degradability: No information available.
Bioaccumulation: No information available.
Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal of Wastes: Dispose of in accordance with federal, state and local regulations.
Contaminated Packaging: Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

TDG / DOT: Not Regulated
Proper Shipping Name: Non-Hazardous Product
Special Provisions: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Check with a trained hazardous materials transportation expert for information specific to your situation.

15. REGULATORY INFORMATION

DSL / NDSL Status: (Domestic Substances List / Non-Domestic Substances List)
The chemical substances in this product are included on or exempt from listing on the Canadian DSL / NDSL.

TSCA Status: (Toxic Substance Control Act Section 8(b) Inventory)
All chemical substances in this product are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

SARA 313
This product does not contain listed substances above the "de minimus" level

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA

<table>
<thead>
<tr>
<th>Category</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazards</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

HMIS

<table>
<thead>
<tr>
<th>Category</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazards</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Revision Date: 20-Jun-2019
Reasons for Revision: Section 3

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