Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier
Product Name

Condensed Distiller’s Solubles, Distiller’s Syrup, Syrup

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s)
Animal Nutrition

1.3 Details of the supplier of the safety data sheet

Manufacturer
Homeland Energy Solutions
2779 Hwy 24
Lawler, IA 52154
United States
www.homelandenergysolutions.com

Telephone (General) (563) 238-5555
Fax (563) 238-5557

1.4 Emergency telephone number

Manufacturer 1-800-424-9300 - CHEMTREC

Section 2: Hazards Identification

UN GHS
According to Third Revised Edition

2.1 Classification of the substance or mixture

UN GHS Not classified

2.2 Label elements

UN GHS Not required

2.3 Other hazards

UN GHS According to the Globally Harmonized System for Classification and Labeling (GHS) this product is not considered hazardous.

United States (US)
According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS Not classified
2.2 Label elements
OSHA HCS

- Not required

2.3 Other hazards
OSHA HCS

- This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

2.4 Other information
NFPA

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%(weight)</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensed thin stillage</td>
<td>NDA</td>
<td>100%</td>
<td>NDA</td>
<td>UN GHS: Not Classified</td>
<td>Condensed thin stillage after removal of ethanol and solids</td>
</tr>
</tbody>
</table>

3.2 Mixtures

- Material does not meet the criteria of a mixture according to United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- IF ON SKIN: Wash with plenty of soap and water.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- If large quantities are swallowed, call a physician immediately. Give plenty of water to drink. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed
- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed
- Immediate medical attention after exposure to this material not expected to be necessary. No special treatment indicated related to exposure to this material.
Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Material is non-combustible. In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media
- None known.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Material is non-combustible and is not expected to pose a fire or explosion hazard.

Hazardous Combustion Products
- Carbon dioxide and possibly carbon monoxide.

5.3 Advice for firefighters
- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- No special precautions expected to be necessary if material is used under ordinary conditions and as recommended.

Emergency Procedures
- Use normal clean up procedures. Avoid unnecessary personnel and equipment traffic in the spill area.

6.2 Environmental precautions
- No special environmental precautions necessary.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

6.4 Reference to other sections
- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use good safety and industrial hygiene practices. Wash thoroughly after handling and before eating, drinking or smoking.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Store in a cool, dry, well-ventilated place.

Incompatible Materials or Ignition Sources
- None

7.3 Specific end use(s)
- Refer to Section 1.2 - Relevant identified uses.
**Section 8 - Exposure Controls/Personal Protection**

### 8.1 Control parameters

**Exposure Limits/Guidelines**

- No applicable exposure limits are available for this material.

### 8.2 Exposure controls

**Engineering Exposure Controls**

- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

**Personal Protective Equipment**

- **Respiratory**
  - Not normally required. Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

- **Eye/Face**
  - Wear safety goggles.

- **Skin/Body**
  - Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

**General Industrial Hygiene Considerations**

- Wash hands before eating.

**Environmental Exposure Controls**

- Follow best practice for site management and disposal of waste.

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**Key to abbreviations**

- MSHA = Mine Safety and Health Administration
- NIOSH = National Institute of Occupational Safety and Health
- OSHA = Occupational Safety and Health Administration

---

**Section 9 - Physical and Chemical Properties**

### 9.1 Information on Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Physical Form</th>
<th>Appearance/Description</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Form</strong></td>
<td>Liquid</td>
<td>Straw-yellow to brown-yellow syrup with slight grains aroma.</td>
<td></td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Straw-yellow to brown-yellow.</td>
<td>Odor Slight grains aroma.</td>
<td></td>
</tr>
<tr>
<td><strong>Taste</strong></td>
<td>No data available</td>
<td>Particulate Type Not relevant</td>
<td></td>
</tr>
<tr>
<td><strong>Particulate Size</strong></td>
<td>Not relevant</td>
<td>Aerosol Type Not relevant</td>
<td></td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>No data available</td>
<td>Physical and Chemical Properties No data available</td>
<td></td>
</tr>
</tbody>
</table>

**General Properties**

- **Boiling Point** 212 F(100 C) Melting Point 32 F(0 C)
- **Decomposition Temperature** Not relevant Heat of Decomposition No data available
- **pH** 3.5 to 7 Specific Gravity/Relative Density 1.1 Water=1
- **Density** No data available Bulk Density No data available
- **Water Solubility** Negligible Solvent Solubility No data available
- **Viscosity** No data available Explosive Properties No data available
- **Oxidizing Properties:** No data available
- **Vapor Pressure** Not relevant Vapor Density Not relevant
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation Rate</td>
<td>Negligible</td>
</tr>
<tr>
<td>VOC (Wt.)</td>
<td>Not relevant</td>
</tr>
<tr>
<td>VOC (Vol.)</td>
<td>No data available</td>
</tr>
<tr>
<td>Volatiles (Wt.)</td>
<td>Negligible</td>
</tr>
<tr>
<td>Volatiles (Vol.)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not relevant</td>
</tr>
<tr>
<td>UEL</td>
<td>No data available</td>
</tr>
<tr>
<td>LEL</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition</td>
<td>No data available</td>
</tr>
<tr>
<td>Self-Accelerating Decomposition Temperature (SADT)</td>
<td>No data available</td>
</tr>
<tr>
<td>Heat of Combustion ($\Delta H_c$)</td>
<td>No data available</td>
</tr>
<tr>
<td>Burning Time</td>
<td>No data available</td>
</tr>
<tr>
<td>Flame Duration</td>
<td>No data available</td>
</tr>
<tr>
<td>Flame Height</td>
<td>No data available</td>
</tr>
<tr>
<td>Flame Extension</td>
<td>No data available</td>
</tr>
<tr>
<td>Ignition Distance</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
</tr>
<tr>
<td>Half-Life</td>
<td>No data available</td>
</tr>
<tr>
<td>Octanol/Water Partition coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>Coefficient of water/oil distribution</td>
<td>No data available</td>
</tr>
<tr>
<td>Bioaccumulation Factor</td>
<td>No data available</td>
</tr>
<tr>
<td>Bioconcentration Factor</td>
<td>No data available</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand BOD/BOD5</td>
<td>No data available</td>
</tr>
<tr>
<td>Chemical Oxygen Demand</td>
<td>No data available</td>
</tr>
<tr>
<td>Persistence</td>
<td>No data available</td>
</tr>
<tr>
<td>Degradation</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 9.2 Other Information
- No additional physical and chemical parameters noted.

### Section 10: Stability and Reactivity

#### 10.1 Reactivity
- No dangerous reaction known under conditions of normal use.

#### 10.2 Chemical stability
- Stable under normal temperatures and pressures.

#### 10.3 Possibility of hazardous reactions
- Hazardous polymerization will not occur.

#### 10.4 Conditions to avoid
- None known.

#### 10.5 Incompatible materials
- None

#### 10.6 Hazardous decomposition products
- None. However, as with any organic material, combustion will produce carbon dioxide and possibly carbon monoxide.
Section 11 - Toxicological Information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>Skin corrosion/Irritation</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>Toxicity for Reproduction</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
</tbody>
</table>

Potential Health Effects

Inhalation
- **Acute (Immediate)**
  - Under normal conditions of use, no health effects are expected.
- **Chronic (Delayed)**
  - No information on adverse effects in humans found.

Skin
- **Acute (Immediate)**
  - Under normal conditions of use, no health effects are expected.
- **Chronic (Delayed)**
  - No information on adverse effects in humans found.

Eye
- **Acute (Immediate)**
  - Under normal conditions of use, no health effects are expected. Eye contact may cause mild transient irritation.
- **Chronic (Delayed)**
  - No information on adverse effects in humans found.

Ingestion
- **Acute (Immediate)**
  - Ingestion of quantities sufficient to produce health effects is not a plausible route of exposure in industrial use.
- **Chronic (Delayed)**
  - No information on adverse effects in humans found.

Section 12 - Ecological Information

12.1 Toxicity
- Material data lacking.

12.2 Persistence and degradability
- Material data lacking.

12.3 Bioaccumulative potential
- Material data lacking.

12.4 Mobility in Soil
- Material data lacking.
12.5 Results of PBT and vPvB assessment
   ● PBT and vPvB assessment has not been carried out.

12.6 Other adverse effects
   ● Material data lacking.

---

**Section 13 - Disposal Considerations**

13.1 Waste treatment methods

- **Product waste**
  - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

- **Packaging waste**
  - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

---

**Section 14 - Transport Information**

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
<td>NDA</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user
   ● None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
   ● Not relevant.

---

**Section 15 - Regulatory Information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- **SARA Hazard Classifications**
  ● None

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>MA</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensed thin stillage</td>
<td>NDA</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensed thin stillage</td>
<td>NDA</td>
</tr>
</tbody>
</table>

**United States**

**Labor**

- U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals
### Not Listed

**U.S. - OSHA - Specifically Regulated Chemicals**

### Environment

**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

**Not Listed**

**U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**

**Not Listed**

**U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities**

**Not Listed**

**U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs**

**Not Listed**

**U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs**

**Not Listed**

**U.S. - CERCLA/SARA - Section 313 - Emission Reporting**

**Not Listed**

**U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing**

### United States - California

#### Environment

**U.S. - California - Proposition 65 - Carcinogens List**

**Not Listed**

**U.S. - California - Proposition 65 - Developmental Toxicity**

**Not Listed**

**U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)**

**Not Listed**

**U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)**

**Not Listed**
U.S. - California - Proposition 65 - Reproductive Toxicity - Female
Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male
Not Listed

United States - Pennsylvania

Labor
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Not Listed
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
Not Listed

United States - Rhode Island

Labor
U.S. - Rhode Island - Hazardous Substance List
Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date 23/May/2012
Preparation Date 23/May/2012
Disclaimer/Statement of Liability
- The information contained herein is believed to be accurate. It is not intended to constitute performance information concerning the product. No Express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

Key to abbreviations
NDA = No Data Available