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

1.1 Product identifier
Product Name: Wet distiller’s grains, modified wet distiller’s grains
Synonyms: MWD; WDG; Wetcake

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

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>Wet grain solids</td>
<td>NDA</td>
<td>100%</td>
<td>NDA</td>
<td>UN GHS: Not Classified</td>
<td>NDA</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
- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.

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
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

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

Notes to Physician
- 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
- Use care for slip/fall hazards on spilled grains.

Emergency Procedures
- No emergency procedures are expected to be necessary if material is used under ordinary conditions as as recommended.

6.2 Environmental precautions
- No special environmental precautions necessary.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Carefully shovel or sweep up spilled material and place in suitable container.

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
- Keep container closed. Store in a cool, dry, well-ventilated place.

Incompatible Materials or Ignition Sources
- Strong acids, strong bases, and oxidizing agents.

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 Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

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.

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>Physical Form</td>
<td>Solid</td>
<td>Straw-yellow to brown-yellow wet grains solids, slight grains aroma.</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Straw-yellow to brown-yellow.</td>
<td>Odor</td>
<td>Slight grains aroma.</td>
</tr>
<tr>
<td>Taste</td>
<td>No data available</td>
<td>Particulate Type</td>
<td>No data available Granular</td>
</tr>
<tr>
<td>Particulate Size</td>
<td>No data available</td>
<td>Aerosol Type</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td>Physical and Chemical Properties</td>
<td>No data available</td>
</tr>
<tr>
<td>General Properties</td>
<td>No data available</td>
<td>Melting Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data available</td>
<td>Heat of Decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
<td>Specific Gravity/Relative Density</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Negligible</td>
<td>Bulk Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
<td>Solvent Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing Properties:</td>
<td>No data available</td>
<td>Explosive Properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Volatility</td>
<td>No data available</td>
<td></td>
<td></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 not indicated.

10.4 Conditions to avoid


10.5 Incompatible materials

- Strong acids, strong bases, and oxidizing agents.

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

Other Material Information

- No toxicological effects are expected to occur related to exposure to this material. If material dries out the hazards from exposure of the dust are represented below.

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Skin corrosion/Irritation</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Toxicity for Reproduction</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>UN GHS • Data lacking</td>
</tr>
</tbody>
</table>

Route(s) of entry/exposure
- Inhalation, Skin, Eye, Ingestion

Medical Conditions Aggravated by Exposure
- Disorders of the lungs.

Potential Health Effects

Inhalation
- **Acute (Immediate)**
  - Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.

- **Chronic (Delayed)**
  - Prolonged exposure to the dust may cause wheezing, chest tightness, productive cough nasal irritation and symptoms of chronic respiratory disease. Dust may also induce asthmatic reactions via an allergic mechanism, particularly in individuals who are predisposed to developing allergies.

Skin
- **Acute (Immediate)**
  - Exposure to dust may cause mechanical irritation.

- **Chronic (Delayed)**
  - No data available.

Eye
- **Acute (Immediate)**
  - Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

- **Chronic (Delayed)**
  - No data available.

Ingestion
- **Acute (Immediate)**
  - Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

- **Chronic (Delayed)**
  - No chronic effects expected, material is an animal feed ingredient.

Section 12 - Ecological Information

12.1 Toxicity
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>
<tr>
<td>TDG</td>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
<td>NDA</td>
</tr>
<tr>
<td>IATA/ICAO</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>Wet grain solids</td>
<td>NDA</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
### Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet grain solids</td>
<td>NDA</td>
<td>No</td>
</tr>
</tbody>
</table>

### United States

#### Labor

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

- **U.S. - OSHA - Specifically Regulated Chemicals**
  
  Not Listed

#### 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**
  
  Not Listed

### United States - California

#### Environment

- **U.S. - California - Proposition 65 - Carcinogens List**
  
  Not Listed

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

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
- 19/April/2012

 Preparation Date
- 19/April/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