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

1.1 Product identifier

Product Name  • Distiller's Corn Oil
Synonyms  • Corn Oil, N.F.

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

Relevant identified use(s)  • Animal nutrition, biodiesel feed-stock

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  • Skin Mild Irritation 3 - H316

2.2 Label elements

UN GHS

WARNING

Hazard statements  • H316 - Causes mild skin irritation
Precautionary statements

Prevention  • P280 - Wear protective gloves .
Response  • P332+P313 - If skin irritation occurs: Get medical advice/attention.
Storage/Disposal  • P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
2.3 Other hazards

**UN GHS**
- According to the Globally Harmonized System for Classification and Labeling (GHS) this product is considered hazardous.

---

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

**2.1 Classification of the substance or mixture**
- OSHA HCS 1994: Not classified

**2.2 Label elements**
- OSHA HCS 1994: Not required

**2.3 Other hazards**

---

**Canada**
According to WHMIS

**2.1 Classification of the substance or mixture**
- WHMIS: Uncontrolled

**2.2 Label elements**
- WHMIS: Not required

**2.3 Other hazards**
- WHMIS: In Canada, the product mentioned above is uncontrolled under the Workplace Hazardous Materials Information System (WHMIS).

---

**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>%</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn oil</td>
<td>CAS:8001-30-7, EINECS:232-281-2</td>
<td>100%</td>
<td>Ingestion/Oral-Rat LD50 • &gt;100 mL/kg</td>
<td>UN GHS: Skin Irrit 3</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.

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

Eye
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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
- Dry chemical powder, water spray, fog or foam.

Unsuitable Extinguishing Media
- Water jet.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Corn oil mist is combustible.

Hazardous Combustion Products
- Carbon dioxide and possibly carbon monoxide.

5.3 Advice for firefighters

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

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Spilled corn oil is very slippery. Avoid walking through spilled material and promptly clean up any spills.

Emergency Procedures
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Stay upwind. Keep unauthorized personnel away.

6.2 Environmental precautions

- No special environmental precautions necessary. Avoid run off to waterways and
6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Stop leak if you can do it without risk.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Wash spill area with detergent and water.

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
- Keep away from heat and ignition sources – No Smoking. Use good safety and industrial hygiene practices. Promptly clean up any spilled material. Do not use in areas without adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities
Storage
- Store in a cool, dry place. Keep away from heat and sources of ignition.

7.3 Specific end use(s)
- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

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

Pictograms
- Respiratory
  - In case of insufficient ventilation, wear suitable respiratory equipment.
- Eye/Face
  - Wear protective eyewear (goggles, face shield, or safety glasses).
- Skin/Body
  - Wear appropriate gloves.
- General Industrial Hygiene Considerations
  - Do not get in eyes or on skin or clothing. Handle in accordance with good industrial hygiene and safety practice.
- Environmental Exposure Controls
  - Follow best practice for site management and disposal of waste.

Key to abbreviations

NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties
# 9.1 Information on Physical and Chemical Properties

## Material Description

<table>
<thead>
<tr>
<th>Physical Form</th>
<th>Liquid</th>
<th>Appearance/Description</th>
<th>Yellow, or reddish-yellow liquid with slight corn odor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Yellow, or reddish-yellow.</td>
<td>Odor</td>
<td>Slight corn.</td>
</tr>
<tr>
<td>Taste</td>
<td>No data available</td>
<td>Particulate Type</td>
<td>No data available</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>
</tbody>
</table>

## General Properties

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>No data available</th>
<th>Melting Point</th>
<th>-14 C(6.8°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
<td>Heat of Decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td>Specific Gravity/Relative Density</td>
<td>0.918 Water=1</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
<td>Bulk Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Negligible</td>
<td>Solvent Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
<td>Explosive Properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Odorizing Properties:</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Volatility

<table>
<thead>
<tr>
<th>Vapor Pressure</th>
<th>No data available</th>
<th>Vapor Density</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>VOC (Wt.)</td>
<td>No data available</td>
</tr>
<tr>
<td>VOC (Vol.)</td>
<td>No data available</td>
<td>Volatiles (Wt.)</td>
<td>No data available</td>
</tr>
<tr>
<td>Volatiles (Vol.)</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Flammability

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>254 C(489.2°F)</th>
<th>UEL</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEL</td>
<td>No data available</td>
<td>Autoignition</td>
<td>No data available</td>
</tr>
<tr>
<td>Self-Accelerating Decomposition Temperature (SADT)</td>
<td>No data available</td>
<td>Heat of Combustion (ΔHc)</td>
<td>No data available</td>
</tr>
<tr>
<td>Burning Time</td>
<td>No data available</td>
<td>Flame Height</td>
<td>No data available</td>
</tr>
<tr>
<td>Flame Extension</td>
<td>No data available</td>
<td>Ignition Distance</td>
<td>No data available</td>
</tr>
<tr>
<td>Flame Duration</td>
<td>No data available</td>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

## Environmental

<table>
<thead>
<tr>
<th>Half-Life</th>
<th>No data available</th>
<th>Octanol/Water Partition coefficient</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coefficient of water/oil distribution</td>
<td>No data available</td>
<td>Bioaccumulation Factor</td>
<td>No data available</td>
</tr>
<tr>
<td>Bioconcentration Factor</td>
<td>No data available</td>
<td>Biochemical Oxygen Demand BOD/BOD5</td>
<td>No data available</td>
</tr>
<tr>
<td>Chemical Oxygen Demand</td>
<td>No data available</td>
<td>Persistence</td>
<td>No data available</td>
</tr>
<tr>
<td>Degradation</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

### 10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.
10.4 Conditions to avoid
- Heat, sparks, open flame.

10.5 Incompatible materials
- Oxidizers

10.6 Hazardous decomposition products
- Not applicable.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS</th>
<th>Acute Toxicity:</th>
<th>Irritation:</th>
<th>Reproductive:</th>
<th>Tumorigen/Carcinogen:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn oil (100%)</td>
<td>8001-30-7</td>
<td>orl-rat LD50: &gt;100 mL/kg; orl-rat TDL0: 18.36 mg/kg/4D-l;</td>
<td>skin-hmn 300 mg/3D-l MLD;</td>
<td>orl-rat TDL0: 390 mL/kg (2W pre-3D post);</td>
<td>orl-rat TDL0: 2600 mL/kg/2Y-l</td>
</tr>
</tbody>
</table>

GHS Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</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>Skin corrosion/Irritation</td>
<td>UN GHS • Skin Mild Irritation 3</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>UN GHS • Classification criteria not met</td>
</tr>
<tr>
<td>STOT-RE</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>Toxicity for Reproduction</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>Serious eye damage/Irritation</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) • Causes mild skin irritation.
- Chronic (Delayed) • No information on adverse effects in humans found.

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

Ingestion
- Acute (Immediate) • Ingestion of large amounts of corn has been shown to have laxative effects.
- Chronic (Delayed) • No information on adverse effects in humans found.

Section 12 - Ecological Information

Preparation Date: 21/February/2012
Revision Date: 14/August/2013

OSHA HCS 1994, WHMIS, UN GHS

Page 6 of 10
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
- Material data lacking.

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></th>
<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>
<td>NDA</td>
</tr>
<tr>
<td>TDG</td>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</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>
<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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>MA</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn oil</td>
<td>8001-30-7</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>Canada DSL</th>
<th>Canada NDSL</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn oil</td>
<td>8001-30-7</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Canada

#### Labor

**Canada - WHMIS - Classifications of Substances**
- Corn oil 8001-30-7 Uncontrolled product according to WHMIS classification criteria

**Canada - WHMIS - Ingredient Disclosure List**
- Corn oil 8001-30-7 Not Listed

### Environment

**Canada - CEPA - Priority Substances List**
- Corn oil 8001-30-7 Not Listed

### Mexico

#### Other

**Mexico - Hazard Classifications**
- Corn oil 8001-30-7 Not Listed

**Mexico - Regulated Substances**
- Corn oil 8001-30-7 Not Listed

### United States

#### Labor

**U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**
- Corn oil 8001-30-7 Not Listed

**U.S. - OSHA - Specifically Regulated Chemicals**
- Corn oil 8001-30-7 Not Listed

#### Environment

**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**
- Corn oil 8001-30-7 Not Listed

**U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**
- Corn oil 8001-30-7 Not Listed

**U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities**
- Corn oil 8001-30-7 Not Listed

**U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs**
- Corn oil 8001-30-7 Not Listed

**U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs**
- Corn oil 8001-30-7 Not Listed

**U.S. - CERCLA/SARA - Section 313 - Emission Reporting**
- Corn oil 8001-30-7 Not Listed

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

Environment
- U.S. - California - Proposition 65 - Carcinogens List
  - Corn oil 8001-30-7 Not Listed
- U.S. - California - Proposition 65 - Developmental Toxicity
  - Corn oil 8001-30-7 Not Listed
- U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
  - Corn oil 8001-30-7 Not Listed
- U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)
  - Corn oil 8001-30-7 Not Listed
- U.S. - California - Proposition 65 - Reproductive Toxicity - Female
  - Corn oil 8001-30-7 Not Listed
- U.S. - California - Proposition 65 - Reproductive Toxicity - Male
  - Corn oil 8001-30-7 Not Listed

United States - Pennsylvania

Labor
- U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
  - Corn oil 8001-30-7 Not Listed
- U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
  - Corn oil 8001-30-7 Not Listed

United States - Rhode Island

Labor
- U.S. - Rhode Island - Hazardous Substance List
  - Corn oil 8001-30-7 Flammable

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date
- 14/August/2013

Preparation Date
- 21/February/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