1. IDENTIFICATION

Product Identifier
Product Name: HOUGEN 11747 ROTAFOAM (AEROSOL)
UN/ID No: UN1950

Recommended use of the chemical and restrictions on use
Recommended Use: Tapping and drilling metal.

Details of the supplier of the safety data sheet
Supplier Address: HOUGEN MANUFACTURING, INC.
3001 Hougen Drive
Swartz Creek, MI 48473

Emergency Telephone Number
Company Phone Number: 810-635-7111
Emergency Telephone (24 hr): INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance: Clear liquid in an aerosol
Physical State: Aerosol
Odor: Slight; Petroleum

Classification
- Acute toxicity - Inhalation (Dusts/Mists): Category 4
- Flammable Aerosol: Category 1

Hazards Not Otherwise Classified (HNOC)
Pressurized container: May burst if heated

Signal Word: DANGER

Hazard Statements
- Extremely flammable aerosol
- Contains gas under pressure: May explode if heated
- Harmful if inhaled

Precautionary Statements - Prevention
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Do not spray on an open flame or other ignition source
- Pressurized container: Do not pierce or burn, even after use
Precautionary Statements - Response
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do not induce vomiting

Precautionary Statements - Storage
Store locked up
Protect from sunlight. Do not store at temperatures above 120°F. Store in a well-ventilated place

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Unknown Acute Toxicity
50-60% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorinated paraffin (C14-17)</td>
<td>61788-76-9</td>
<td>20-30</td>
</tr>
<tr>
<td>Petroleum distillates, hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>20-30</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>10-20</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.**

4. FIRST-AID MEASURES

First Aid Measures

General Advice
Provide this SDS to medical personnel for treatment.

Eye Contact
Flush immediately with copious amounts of water for 15 minutes. If irritation persists, see physician.

Skin Contact
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If skin irritation persists, call a physician.

Inhalation
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Ingestion
Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Seek immediate medical attention/advice.

Most important symptoms and effects

Symptoms
May cause eye, skin and respiratory tract irritation. May include redness, drying and cracking of skin.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES
**Suitable Extinguishing Media**
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**Unsuitable Extinguishing Media**
Not determined.

**Specific Hazards Arising from the Chemical**
Pressurized container: May burst if heated.

**Hazardous Combustion Products**
Smoke, Fume, Incomplete combustion products, Oxides of carbon.

**Protective equipment and precautions for firefighters**
Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions**
Wear protective clothing as described in Section 8 of this safety data sheet.

**Environmental Precautions**
Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

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

**Methods for Containment**
Prevent further leakage or spillage if safe to do so. Absorb or cover with dry earth, sand or other non-combustible material.

**Methods for Clean-Up**
Use clean non-sparking tools to collect absorbed material. Sweep up absorbed material and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations. For waste disposal, see section 13 of the SDS. Contain large spills and pump into a suitable tank for disposal. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800) 424-8802.

### 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on Safe Handling**
Handle in accordance with good industrial hygiene and safety practice. Wash face, hands, and any exposed skin thoroughly after handling. Use only with adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Do not puncture or incinerate cans. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.

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

**Storage Conditions**
Keep container tightly closed and store in a cool, dry and well-ventilated place. Do not store at temperatures above 120°F.

**Incompatible Materials**

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Exposure Guidelines

Petroleum oil has an ACGIH TLV-TWA of 5 mg/m³ 8 hours (mist). NIOSH STEL 10 mg/m³ 15 minutes.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane 74-98-6</td>
<td>TWA: 1000 ppm</td>
<td>TWA: 1000 ppm</td>
<td>IDLH: 2100 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 1800 mg/m³</td>
<td>TWA: 1000 ppm (vacated)</td>
<td>TWA: 1000 ppm (vacated)</td>
</tr>
<tr>
<td></td>
<td>TWA: 1800 mg/m³</td>
<td>TWA: 1800 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Controls

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Maintain eye wash fountain and quick-drench facilities in work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection

Impervious gloves such as neoprene or solvex can be used.

Respiratory Protection

Ensure adequate ventilation, especially in confined areas.

General Hygiene Considerations

Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Aerosol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid in an aerosol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Slight; Petroleum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Boiling Range</td>
<td>&gt; 100 °C / &gt; 212 °F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 235 °C / &gt; 455 °F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&gt; 1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limits</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>&lt; 5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.894 Aerosol / 1.04 Bulk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Nil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not determined</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions
Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to Avoid
Incompatible Materials.

Incompatible Materials

Hazardous Decomposition Products
Thermal decomposition and combustion are not expected to occur except under extreme conditions.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact
May cause temporary irritation on eye contact.

Skin Contact
Prolonged contact may cause redness and irritation.

Inhalation
Harmful if inhaled. May cause irritation to the mucous membranes and upper respiratory tract.

Ingestion
May be fatal if swallowed and enters airways. May cause gastrointestinal irritation, nausea, diarrhea, and vomiting.

Component 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>Petroleum distillates, hydrotreated</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 5 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>heavy naphthenic</td>
<td>(Rat)</td>
<td>(Rabbit)</td>
<td></td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>-</td>
<td>= 658 mg/L (Rat) 4 h</td>
</tr>
</tbody>
</table>

Information on physical, chemical and toxicological effects

Symptoms
Please see section 4 of this SDS for symptoms.

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

Carcinogenicity
The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.

Aspiration hazard
May be fatal if swallowed and enters airways.

Numerical measures of toxicity
Not determined

Unknown Acute Toxicity
50-60% of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Component Information

<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></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Petroleum distillates, hydrotreated heavy naphthenic, CAS# 64742-52-5

Persistence/Degradability Not determined.

Bioaccumulation Not determined.

Mobility

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane</td>
<td>74-98-6</td>
</tr>
<tr>
<td></td>
<td>2.3</td>
</tr>
</tbody>
</table>

Other Adverse Effects Not determined

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 Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT (each not exceeding 1 L capacity)

<table>
<thead>
<tr>
<th>UN/ID No</th>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1950</td>
<td>Aerosols, flammable</td>
<td>2.1</td>
</tr>
</tbody>
</table>

IATA

<table>
<thead>
<tr>
<th>UN/ID No</th>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1950</td>
<td>Aerosols, flammable</td>
<td>2.1</td>
</tr>
</tbody>
</table>

IMDG

<table>
<thead>
<tr>
<th>UN/ID No</th>
<th>Proper Shipping Name</th>
<th>Hazard Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1950</td>
<td>Aerosols, flammable</td>
<td>2.1</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorinated paraffin (C14-17)</td>
<td>Present</td>
<td>X</td>
<td></td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>X</td>
<td>Present</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Petroleum distillates, hydrotreated heavy naph</td>
<td>Present</td>
<td>X</td>
<td></td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>X</td>
<td>Present</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Propane</td>
<td>Present</td>
<td>X</td>
<td></td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>X</td>
<td>Present</td>
<td>X</td>
<td>X</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
US Federal Regulations

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).

SARA 311/312 Hazard Categories

Acute Health Hazard Yes

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

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)

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>Propane 74-98-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA

<table>
<thead>
<tr>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>0</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

HMIS

<table>
<thead>
<tr>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>0</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Issue Date: 
Revision Date: 10-Apr-2017
Revision Note:
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