SAFETY DATA SHEET

Product Trade Name: NO-SAG®

Revision Date: 24-Jul-2018  Revision Number: 16

1. Identification

1.1. Product Identifier
Product Trade Name: NO-SAG®
Synonyms: None
Chemical Family: Carbohydrate
Internal ID Code: HM003705

1.2 Recommended use and restrictions on use
Application: Viscosifier
Uses advised against: No information available

1.3 Manufacturer’s Name and Contact Details
Manufacturer/Supplier
Baroid Fluid Services
Product Service Line of Halliburton Energy Services, Inc.
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000

Halliburton Energy Services, Inc.
645 - 7th Ave SW Suite 1800
Calgary, AB
T2P 4G8
Canada
Telephone: 1-403-231-9300

Prepared By
Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:
Emergency Telephone Number
1-866-519-4752 or 1-760-476-3962
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

| Combustible dust | Combustible dust |

2.2. Label Elements

Hazard Pictograms

Signal Word: Warning

Hazard Statements
May form combustible dust concentrations in air.

Precautionary Statements

Prevention
Response
Storage
Disposal

None
None
None
None

2.3 Hazards not otherwise classified
None known

3. Composition/information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>PERCENT (w/w)</th>
<th>GHS Classification - US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xanthan gum</td>
<td>11138-66-2</td>
<td>60 - 100%</td>
<td>Combustible Dust</td>
</tr>
</tbody>
</table>

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First Aid Measures

4.1. Description of first aid measures

Inhalation     If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Eyes           In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Skin           Wash with soap and water. Get medical attention if irritation persists.

Ingestion      Under normal conditions, first aid procedures are not required.

4.2 Most important symptoms/effects, acute and delayed
No significant hazards expected.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media
Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons
None known.

5.2 Specific hazards arising from the substance or mixture

Special exposure hazards in a fire
Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential. Decomposition in fire may produce harmful gases.

5.3 Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.
See Section 8 for additional information

6.2. Environmental precautions
Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up
Scoop up and remove.

7. Handling and storage

7.1. Precautions for safe handling
Handling Precautions
Avoid creating or inhaling dust. Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Slippery when wet. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.
Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities
Storage Information
Store away from oxidizers. Store in a cool, dry location.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>OSHA PEL-TWA</th>
<th>ACGIH TLV-TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xanthan gum</td>
<td>11138-66-2</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

8.2 Appropriate engineering controls
Engineering Controls
Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

<table>
<thead>
<tr>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory Protection</td>
</tr>
<tr>
<td>Not normally needed. But if significant exposures are possible then the following respirator is recommended:</td>
</tr>
<tr>
<td>Dust/mist respirator. (N95, P2/P3)</td>
</tr>
<tr>
<td>Hand Protection</td>
</tr>
<tr>
<td>Normal work gloves.</td>
</tr>
<tr>
<td>Skin Protection</td>
</tr>
<tr>
<td>Normal work coveralls.</td>
</tr>
<tr>
<td>Eye Protection</td>
</tr>
<tr>
<td>Wear safety glasses or goggles to protect against exposure.</td>
</tr>
<tr>
<td>Other Precautions</td>
</tr>
<tr>
<td>None known.</td>
</tr>
</tbody>
</table>

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Color:</th>
<th>Odor:</th>
<th>Odor Threshold:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>White to yellow</td>
<td>Slight</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Property | Values |
------------------|--------|

**Remarks** / - Method

- **pH:** 7
- **Freezing Point / Range:** No data available
- **Melting Point / Range:** No data available
- **Boiling Point / Range:** No data available
- **Flash Point:** No data available
- **Flammability (solid, gas):** No data available
  - **Upper flammability limit:** No data available
  - **Lower flammability limit:** No data available
- **Evaporation rate:** No data available
- **Vapor Pressure:** No data available
- **Vapor Density:** No data available
- **Specific Gravity:** 1.5
- **Water Solubility:** Soluble in water
- **Solubility in other solvents:** No data available
- **Partition coefficient: n-octanol/water:** No data available
- **Autoignition Temperature:** 204 °C / 400 °F
- **Decomposition Temperature:** No data available
- **Viscosity:** No data available
- **Explosive Properties:** No information available
- **Oxidizing Properties:** No information available

**9.2. Other information**

- **Molecular Weight:** 1000000
- **VOC Content (%):** No data available

**10. Stability and Reactivity**

**10.1. Reactivity**
Not expected to be reactive.

**10.2. Chemical stability**
Stable

**10.3. Possibility of hazardous reactions**
Will Not Occur

**10.4. Conditions to avoid**
None anticipated

**10.5. Incompatible materials**
Strong oxidizers.

**10.6. Hazardous decomposition products**
Carbon monoxide and carbon dioxide.

**11. Toxicological Information**

**11.1 Information on likely routes of exposure**

- **Principle Route of Exposure:** Eye or skin contact, inhalation.

**11.2 Symptoms related to the physical, chemical and toxicological characteristics**

**Acute Toxicity**

- **Inhalation:** May impede respiration.
- **Eye Contact:** May cause mild eye irritation.
- **Skin Contact:** None known.
11.3 Toxicity data

12. Ecological Information

12.1. Toxicity

12.2. Persistence and degradability

12.3. Bioaccumulative potential
12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xanthan gum</td>
<td>11138-66-2</td>
<td>No information available</td>
</tr>
</tbody>
</table>

12.5 Other adverse effects
No information available

13. Disposal Considerations

13.1. Waste treatment methods

<table>
<thead>
<tr>
<th>Disposal methods</th>
<th>Bury in a licensed landfill according to federal, state, and local regulations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated Packaging</td>
<td>Follow all applicable national or local regulations.</td>
</tr>
</tbody>
</table>

14. Transport Information

US DOT

<table>
<thead>
<tr>
<th>UN Number</th>
<th>Not restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name:</td>
<td>Not restricted</td>
</tr>
<tr>
<td>Transport Hazard Class(es):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Environmental Hazards:</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Canadian TDG

<table>
<thead>
<tr>
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<td>Environmental Hazards:</td>
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IMDG/IMO

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<th>Not restricted</th>
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<td>UN proper shipping name:</td>
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<td>Environmental Hazards:</td>
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IATA/ICAO

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<tr>
<td>Environmental Hazards:</td>
<td>Not applicable</td>
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</tbody>
</table>

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable
Special Precautions for User | None

15. Regulatory Information

US Regulations

US TSCA Inventory | All components listed on inventory or are exempt.
### TSCA Significant New Use Rules - S5A2

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>TSCA Significant New Use Rules - S5A2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xanthan gum</td>
<td>11138-66-2</td>
<td>Not applicable</td>
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### EPA SARA Title III Extremely Hazardous Substances

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>EPA SARA Title III Extremely Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xanthan gum</td>
<td>11138-66-2</td>
<td>Not applicable</td>
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</table>

### EPA SARA (311,312) Hazard Class

- Combustible dust

### EPA SARA (313) Chemicals

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>Toxic Release Inventory (TRI) - Group I</th>
<th>Toxic Release Inventory (TRI) - Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xanthan gum</td>
<td>11138-66-2</td>
<td>Not applicable</td>
<td>Not applicable</td>
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</tbody>
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### EPA CERCLA/Superfund Reportable Spill Quantity

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>CERCLA RQ</th>
</tr>
</thead>
<tbody>
<tr>
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<td>11138-66-2</td>
<td>Not applicable</td>
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### EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

### California Proposition 65

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### U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>MA Right-to-Know Law</th>
<th>NJ Right-to-Know Law</th>
<th>PA Right-to-Know Law</th>
</tr>
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<td>11138-66-2</td>
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### NFPA Ratings:
- Health 0, Flammability 0, Reactivity 0

### HMIS Ratings:
- Health 0, Flammability 0, Physical Hazard 0

### Canadian Regulations

#### Canadian Domestic Substances
- All components listed on inventory or are exempt.

### 16. Other information

#### Preparation Information
- Prepared By: Chemical Stewardship
- Telephone: 1-281-871-6107
- e-mail: fdunexchem@halliburton.com

#### Revision Date:
- 24-Jul-2018

#### Reason for Revision
- SDS sections updated:
  - 1

#### Additional information
- For additional information on the use of this product, contact your local Halliburton representative.

- For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.
Key or legend to abbreviations and acronyms used in the safety data sheet
bw – body weight
CAS – Chemical Abstracts Service
d - day
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
h - hour
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
w/w - weight/weight

Key literature references and sources for data
www.ChemADVISOR.com/

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End of Safety Data Sheet