1. Identification

1.1. Product identifier
Product Identity: Pac-LV
Alternate Names: Sodium CarboxyMethylCellulose

1.2. Relevant identified uses of the substance or mixture and application method
Intended use: Fluidloss Control
Application Method: See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet
Company Name: NorthStar Fluid Solutions
P.O. Box 271036
Louisville, Colorado 80027, USA
Emergency CHEMTREC (USA): (800) 424-9300
24 hour Emergency Telephone No.: International +1-703-527-3887
Customer Service: NorthStar Fluid Solutions: (303) 495-3130

2. Hazard(s) identification

2.1. Classification of the substance or mixture
May form Combustible Dust

2.2. Label elements
Hazard Pictograms

Signal Word: Caution
Hazard Statements: May form combustible dust concentrations in air.

Precautionary Statements
[Prevention]: None
[Response]: None
[Storage]: None
[Disposal]: None

Contains Substances
Polysaccharide/Sodium CarboxyMethylCellulose

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>Polysaccharide/Sodium CarboxymethylCellulose</td>
<td>9004-32-4</td>
<td>100%</td>
<td>Combustible dust</td>
</tr>
</tbody>
</table>

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

*The full texts of the phrases are shown in Section 16.

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**
Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

May cause eye and skin irritation.

4.3 Indication of any immediate medical and special treatment needed

**Notes to Physician**
Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Water fog, carbon dioxide, foam, dry chemical.

5.2. Special hazards arising from the substance or mixture

**Special Exposure Hazards**

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

5.3. Advice for fire-fighters

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. Slippery when wet. 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
Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. 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
Store away from oxidizers. Store in a cool, dry location. Product has a shelf life of 36 months.

8. Exposure controls and 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>Polysaccharide</td>
<td>9004-32-4</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Respiratory: Not normally needed. But if significant exposures are possible then the following respirator is recommended: Dust/mist respirator. (N95, P2/P3)

Eyes: Wear safety glasses or goggles to protect against exposure.

Skin: Normal work coveralls and gloves.

Engineering Controls: Use in a well ventilated area.

Other Work Practices: If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

See section 2 for further details. - [Prevention]:
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid Powder, White to off white</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>6.5-9 (1%)</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>221 °C / 430 °F</td>
</tr>
<tr>
<td>Evaporation rate (Ether = 1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure (Pa)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.6</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Kow)</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>400 °C / 752 °F</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td></td>
</tr>
<tr>
<td>Bulk Density</td>
<td>40-55 lbs/ft³</td>
</tr>
</tbody>
</table>

9.2. Other information
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

<table>
<thead>
<tr>
<th>Route of Exposure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>None known</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>May cause mild eye irritation.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>May cause mild skin irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>None known</td>
</tr>
</tbody>
</table>

Chronic Effects/Carcinogenicity

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>9004-32-4</td>
<td>27000 mg/kg (Rat)</td>
<td>2000 mg/kg (Rabbit)</td>
<td>5800 mg/m³ (Rat) 4h</td>
</tr>
</tbody>
</table>

Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Skin corrosion/irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Eye damage/irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Skin Sensitization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Respiratory Sensitization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Mutagenic Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Carcinogenic Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Reproductive toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>STOT - single exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>No information available</td>
</tr>
</tbody>
</table>
12. Ecological information

12.1. Toxicity
Ecotoxicity Effects

Product Ecotoxicity Data
No data available

Substance Ecotoxicity Data

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Toxicity to Invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>9004-32-4</td>
<td>No information available</td>
<td>TLM96: 10000 ppm (Oncorhynchus mykiss) LC50 (96h) 20000 mg/L (Oncorhynchus mykiss)</td>
<td>No information available</td>
<td>EC50 (48h) 1000-3300 mg/L (Crangon crangon)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>Persistence and Degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>Proprietary</td>
<td>No information available</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS Number</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide</td>
<td>Proprietary</td>
<td>No information available</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No information available

12.5. Results of PBT and vPvB assessment
No information available

12.6. Other adverse effects
No information available

13. Disposal considerations

13.1. Waste treatment methods

Disposal Method
Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging
Follow all applicable national or local regulations.
14. Transport information

14.1. UN number
DOT (Domestic Surface Transportation) Not restricted
IMO / IMDG (Ocean Transportation) Not restricted
ICAO/IATA Not restricted

14.2. UN proper shipping name
Not restricted
Not restricted
Not restricted

14.3. Transport hazard class(es)
DOT Hazard Class: Not applicable
IMDG: Not applicable
Sub Class: Not applicable
Air Class: Not applicable

14.4. Packing group
Not applicable
Not applicable
Not applicable

14.5. Environmental hazards
IMDG Not applicable

14.6. Special precautions for user
None

15. Regulatory information

US Regulations
US TSCA Inventory All components listed on inventory or are exempt.

EPA SARA Title III Extremely Hazardous Substances Not applicable

EPA SARA (311,312) Hazard Class None

EPA SARA (313) Chemicals This product does not contain a toxic chemical for routine annual “Toxic Chemical Release Reporting” under Section 313 (40 CFR 372).

EPA CERCLA/Superfund Reportable Spill Quantity Not applicable

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 The California Proposition 65 regulations apply to this product.

MA Right-to-Know Law One or more components listed.

NJ Right-to-Know Law One or more components listed.

PA Right-to-Know Law One or more components listed.

Canadian Regulations Canadian DSL Inventory All components listed on inventory or are exempt.
16. Other information

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable Federal, State and local law and regulations. NorthStar Fluid Solutions makes no warranty of any kind, express or implied, concerning the accuracy of completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. NorthStar Fluid Solutions will not be liable for claims relating to any use of this product.

Emergency Overview:

Risk Classification System:

| HEALTH   | 1 |
| FLAMMABILITY | 1 |
| PHYSICAL   | 0 |
| PPE        | E |

End of Document