

SAFETY DATA SHEET

Product Trade Name: N-SEAL™

Revision Date: 11-Nov-2020

Revision Number: 29

1. Identification

1.1. Product Identifier

Product Trade Name: N-SEAL™
Synonyms None
Chemical Family: Silicate
Internal ID Code HM003708

1.2 Recommended use and restrictions on use

Application: Lost Circulation Material
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 Group Canada
645 - 7th Ave SW Suite 1800
Calgary, AB, T2P 4G8, Canada
Telephone: 1-403-231-9300

Prepared By Chemical Stewardship
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:

Emergency Telephone Number 1-866-519-4752 or 1-760-476-3962 (accessible 24 hours a day / 7 days a week)
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

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

As adopted by the competent authority, this product does not require an SDS or hazard warning label.

Not classified

2.2. Label Elements

Hazard Pictograms

Signal Word: Not Classified

Hazard Statements Not Hazardous

Precautionary Statements

| | |
|-------------------|------|
| Prevention | None |
| Response | None |
| Storage | None |
| Disposal | None |

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - US |
|--|------------|---------------|-------------------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 60 - 100% | Not classified |

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**

All standard fire fighting media

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**

Not applicable

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 contact with skin, eyes and clothing. Avoid creating and breathing dust. 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 contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. 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 in a dry location.

8. Exposure Controls/Personal Protection**8.1 Occupational Exposure Limits**

| Substances | CAS Number | OSHA PEL-TWA | ACGIH TLV-TWA |
|--|------------|----------------|----------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment 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.

Respiratory Protection Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

Hand Protection

Normal work gloves.

Skin Protection

Normal work coveralls.

Eye Protection

Wear safety glasses or goggles to protect against exposure.

Other Precautions

None known.

9. Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

Physical State: fibers
Odor: Odorless

Color White to gray
Odor No information available
Threshold:

Property
Remarks/ - Method

Values

| | |
|---|--------------------------|
| pH: | No data available |
| Freezing Point / Range | No data available |
| Melting Point / Range | No data available |
| Pour 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 | 2.6 |
| Water Solubility | Insoluble in water |
| Solubility in other solvents | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Autoignition Temperature | No data available |
| Decomposition Temperature | No data available |
| Viscosity | No data available |
| Explosive Properties | No information available |
| Oxidizing Properties | No information available |

9.2. Other information

| | |
|------------------------|-------------------|
| VOC Content (%) | No data available |
| Bulk Density | 12-26 lbs/ft3 |

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 acids.

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 | None known. |
| Eye Contact | May cause mechanical irritation to eye. |
| Skin Contact | None known. |
| Ingestion | None known. |

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**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|------------|-------------------|-------------------|-------------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No data available | No data available | No data available |

12. Ecological Information**12.1. Toxicity****Acute Crustaceans Toxicity:**

LC50: > 1,000,000 ppm 96-hour (Americamysis bahia)

Substance Ecotoxicity Data

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|--|------------|--------------------------|--------------------------|----------------------------|---------------------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available | No information available | No information available | No information available |

12.2. Persistence and degradability

| Substances | CAS Number | Persistence and Degradability |
|--|------------|-------------------------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

12.3. Bioaccumulative potential

| Substances | CAS Number | Bioaccumulation |
|-------------------------------------|------------|--------------------------|
| Contains no hazardous substances in | NA | No information available |

| | | |
|--|--|--|
| concentrations above cut-off values according to the competent authority | | |
|--|--|--|

12.4. Mobility in soil

| Substances | CAS Number | Mobility |
|--|------------|--------------------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | No information available |

12.5 Other adverse effects

No information available

13. Disposal Considerations**13.1. Waste treatment methods**

| | |
|-------------------------------|---|
| Disposal methods | Bury in a licensed landfill according to federal, state, and local regulations. |
| Contaminated Packaging | Follow all applicable national or local regulations. |

14. Transport Information**US DOT**

| | |
|------------------------------------|----------------|
| UN Number | Not restricted |
| UN proper shipping name: | Not restricted |
| Transport Hazard Class(es): | Not applicable |
| Packing Group: | Not applicable |
| Environmental Hazards: | Not applicable |

Canadian TDG

| | |
|------------------------------------|----------------|
| UN Number | Not restricted |
| UN proper shipping name: | Not restricted |
| Transport Hazard Class(es): | Not applicable |
| Packing Group: | Not applicable |
| Environmental Hazards: | Not applicable |

IMDG/IMO

| | |
|------------------------------------|----------------|
| UN Number | Not restricted |
| UN proper shipping name: | Not restricted |
| Transport Hazard Class(es): | Not applicable |
| Packing Group: | Not applicable |
| Environmental Hazards: | Not applicable |

IATA/ICAO

| | |
|------------------------------------|----------------|
| UN Number | Not restricted |
| UN proper shipping name: | Not restricted |
| Transport Hazard Class(es): | Not applicable |
| Packing Group: | Not applicable |
| Environmental Hazards: | Not applicable |

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

| Substances | CAS Number | TSCA Significant New Use Rules - S5A2 | TSCA Section 5(E) Consent Orders |
|--|------------|---------------------------------------|----------------------------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

EPA SARA Title III Extremely Hazardous Substances

| Substances | CAS Number | EPA SARA Title III Extremely Hazardous Substances |
|--|------------|---|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable |

EPA SARA (311,312) Hazard Class

None

EPA SARA (313) Chemicals

| Substances | CAS Number | Toxic Release Inventory (TRI) - Group I | Toxic Release Inventory (TRI) - Group II |
|--|------------|---|--|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable |

EPA CERCLA/Superfund Reportable Spill Quantity

| Substances | CAS Number | CERCLA RQ |
|--|------------|----------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | 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

| Substances | CAS Number | California Proposition 65 |
|--|------------|---------------------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable |

U.S. State Right-to-Know Regulations

| Substances | CAS Number | MA Right-to-Know Law | NJ Right-to-Know Law | PA Right-to-Know Law |
|--|------------|----------------------|----------------------|----------------------|
| Contains no hazardous substances in concentrations above cut-off values according to the competent authority | NA | Not applicable | Not applicable | Not applicable |

NFPA Ratings:

Health 0, Flammability 0, Reactivity 0

HMIS Ratings:

Health 0, Flammability 0, Physical Hazard 0, PPE: B

Canadian Regulations

Canadian Domestic Substances List (DSL) All components listed on inventory or are exempt.

16. Other information**Preparation Information**

Prepared By

Chemical Stewardship

e-mail: fdunexchem@halliburton.com

Revision Date: 11-Nov-2020

Reason for Revision Update to Format

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/

NZ CCID

Disclaimer Statement

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End of Safety Data Sheet