

SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Identifier: Natrasol™ 250 GR
Trade Name: Hydroxyethylcellulose
Recommended Use: Drilling Fluid Additive, Rheology Modifier
Manufacturer/Supplier: Bri-Chem Supply Ltd.
27075 Acheson Road
Acheson, AB T7X 6B1
Phone Number: 780-962-9490
Emergency Phone: CHEMTREC 1-800-424-9300, 24/7

Section 2: HAZARD(S) IDENTIFICATION

Classification of The Substance or Mixture

Classification (REGULATION (EC) No 1272/2008) Not a hazardous substance or mixture.

Label Elements

Labelling (REGULATION (EC) No 1272/2008) Not a hazardous substance or mixture.

Precautionary Statements

Prevention: Keep dust/air mixtures away from ignition sources.

Other Hazards

Additional Advice: No information available

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

Chemical Nature: Organic

Hydroxyethylcellulose

| Chemical Name | CAS-No. EC-No. Registration Number | Classification (REGULATION (EC) No 1272/2008) | Concentration (%) |
|---------------|--|---|-------------------|
|---------------|--|---|-------------------|

Substances with a workplace exposure limit:

| | | | |
|-------------------------|---|--|---------------------|
| Silica Colloidal | 112926-00-8 231-545-4 01-2119379499-16-0161 | | >= 1,00 - < 2,50 |
|-------------------------|---|--|---------------------|

Section 4: FIRST-AID MEASURES

Description of First-Aid Procedures

General Advice: No hazards which require special first aid measures.

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- If Inhaled:** If breathed in, move person to fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In Case of Skin Contact:** First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
- In Case of Eye Contact:** Remove contact lenses. Protect unharmed eye.
- If Swallowed:** Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Most Important Symptoms and Effects, both Acute and Delayed

- Symptoms:** Signs and symptoms of exposure to this material through breathing, swallowing and/or passage of the material through the skin may include: irritation (nose, throat, airways).

Indication of any Immediate Medical Attention and Special Treatment Needed

Section 5: FIRE-FIGHTING MEASURES

- Suitable Extinguishing Media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, foam.
- Special Hazards Arising from The Substance or Mixture**
- Specific Hazards during Firefighting:** Organic dusts at sufficient concentration can form explosive mixtures in air. Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous Combustion Products:** Carbon dioxide (CO₂), Carbon monoxide, Nitrogen oxides (NO_x), oxides of phosphorus and sodium oxides.
- Advice for Firefighters**
- Special Protective Equipment for Firefighters:** In the event of fire, wear self-contained breathing apparatus.
- Specific Extinguishing Methods:** Product is compatible with standard fire-fighting agents.
- Further Information:** Standard procedure for chemical fires.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

- Personal Precautions:** Avoid dust formation. Avoid breathing dust. Material can create slippery conditions. Persons not wearing protective equipment should be excluded from areas of spill until clean-up has been completed. Comply with all applicable federal, state and local regulations.

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Environmental Precautions

Environmental Precautions: Prevent further leakage or spillage if safe to do so.

Methods and Material for Containment and Cleaning Up

Methods for Cleaning Up: Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

Reference to Other Sections: For further information see Section 8 and Section 13 of the safety data sheet.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling

Advice on Safe Handling: Avoid dust formation. Ensure all equipment is electrically grounded and bonded before beginning transfer operations. The material can accumulate static charge and can therefore cause electrical ignition of flammable atmospheres. Smoking, eating and drinking should be prohibited in the application area. For personal protection see Section 8. Maintain good housekeeping. Do not permit dust layers to accumulate, for example, on floors, ledges and equipment, in order to avoid any potential for dust explosion hazards.

Advice on Protection Against Fire and Explosion: Take measures to prevent the build up of electrostatic charge. Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene Measures: Avoid breathing dust.

Conditions for Safe Storage, Including any Incompatibilities

Requirements for Storage Areas and Containers: No smoking

Advice on Common Storage: No materials to be especially mentioned.

Other Data: Keep in a dry place. No decomposition if stored and applied as directed.

Specific End Uses: No data available

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits

| Components | CAS-No. | Value Type (Form of Exposure) | Control Parameters | Basis |
|------------------|-------------|-------------------------------|----------------------|-----------|
| SILICA COLLOIDAL | 112926-00-8 | TLV 8 hr | 10 mg/m ³ | BE OEL |

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Exposure Controls

Engineering Measures: Provide appropriate exhaust ventilation at places where dust is formed. General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal Protective Equipment

Eye Protection: Safety glasses. Use eye protection according to EN 166.

Hand Protection: Material: Butyl-rubber
Break through time: 480min
Glove thickness: > 0.5 mm
Remarks: The exact break through time can be obtained from the protective glove producer and this has to be observed. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The selected protective gloves have to satisfy the specifications of EU directive 89/686/EEC and the standard EN 374 derived from it.

Skin and Body Protection: Wear as appropriate: Safety shoes, protective clothing complying with EN 13688. Safety shoes complying with EN ISO 20345.

Respiratory Protection: In the case of dust or aerosol formation use respirator with an approved filter within the capabilities of the respirator/filter combination. Where concentrations are above recommended limits or are unknown, or a cartridge type respirator is not adequate, wear a positive-pressure supplied-air respirator. Respiratory protection complying with EN 1363.
Respiratory protection complying with EN 140.
Respiratory protection complying with EN 14387.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Granules, powder
Colour: Off-white
Odour: Odourless
Odour Threshold: No data available
pH: 6.0 – 8.5
Concentration: 2%
(as aqueous solution)
Melting Point/Freezing Point: No data available
Boiling Point/Boiling Range: No data available

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|--|-------------------------------|
| Flash Point: | No data available |
| Evaporation Rate: | No data available |
| Flammability (solid, gas): | No data available |
| Upper Explosion Limit: | No data available |
| Lower Explosion Limit: | 30 g/m ³ |
| Vapour Pressure: | No data available |
| Relative Vapour Density: | No data available |
| Relative Density: | No data available |
| Density: | No data available |
| Solubility(ies) | |
| Water Solubility: | Soluble, limited by viscosity |
| Solubility in Other Solvents: | No data available |
| Partition coefficient: n-octanol/water: | No data available |
| Auto-ignition Temperature: | 460°C |
| Decomposition Temperature: | No data available |
| Viscosity | |
| Viscosity, Dynamic: | No data available |
| Viscosity, Kinematic: | No data available |
| Oxidizing Properties: | No data available |
| Other Information | |
| Dust Deflagration Index (Kst): | < 200 m.b_/s |
| Minimum Ignition Energy: | > 10 mJ |

Section 10: STABILITY AND REACTIVITY

| | |
|--|--|
| Reactivity: | No decomposition if stored and applied as directed. |
| Chemical Stability: | Stable under recommended storage conditions. |
| Possibility of Hazardous Reactions: | Hazardous reactions: Dust may form explosive mixture in air. |
| Conditions to Avoid: | Keep away from heat, flame, sparks and other ignition sources. UV light. Exposure to sunlight, exposure to moisture. |
| Incompatible Materials: | Materials to avoid: Acids, bases, hydrogen fluoride, oxidizing agents, strong bases. |

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Hazardous Decomposition Products

Hazardous Decomposition Products: No hazardous decomposition products are known.

Section 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Information on Likely Routes of Exposure: Inhalation, skin contact, eye contact, ingestion.

Acute Toxicity: Not classified based on available information.

Components: SILICA COLLOIDAL
Acute Oral Toxicity: LD50 (Rat): > 10,000 mg/kg
Acute Dermal Toxicity: LD 50 (Rabbit): > 5,000 mg/kg

Skin Corrosion/Irritation: Not classified based on available information.

Components: SILICA COLLOIDAL
Result: Slight, transient irritation.

Serious Eye Damage/Eye Irritation: Not classified based on available information.

Product: Remarks: Unlikely to cause eye irritation or injury, product dust may be irritating to eyes, skin and respiratory system.

Components: SILICA COLLOIDAL
Result: Slight, transient irritation.

Respiratory or Skin Sensitization

Skin Sensitization: Not classified based on available information.

Respiratory Sensitization: Not classified based on available information.

Germ Cell Mutagenicity: Not classified based on available information.

Reproductive Toxicity: Not classified based on available information.

STOT – Single Exposure: Not classified based on available information.

STOT – Repeated Exposure: Not classified based on available information.

Aspiration Toxicity: Not classified based on available information.

Further Information

Product: Remarks: No data available.

Section 12: ECOLOGICAL INFORMATION

Toxicity

| | | |
|--------------------|--|--|
| Components: | SILICA COLLOIDAL | |
| | Toxicity to Fish: | NOEC (Fish): 10,000 mg/l Exposure time: 96 h |
| | Toxicity to daphnia and other aquatic invertebrates: | EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 24 h |
| | Toxicity to Algae: | NOEC (Desmodesmus subspicatus (green algae)): 10,000 mg/l Exposure time: 72 h |

Persistence and Degradability

Product: Biodegradability: Not readily biodegradable.

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

Results of PBT and vPvB Assessment: Not relevant

Other Adverse Effects

Product

Additional Ecological Information: No data available

Section 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Contaminated Packaging: Empty remaining contents.

Section 14: TRANSPORT INFORMATION

UN Number

ADN: Not dangerous goods

ADR: Not dangerous goods

International Air Transport Association – Cargo: Not dangerous goods

International Air Transport Association – Passenger: Not dangerous goods

International Maritime Dangerous Goods: Not dangerous goods

RID: Not dangerous goods

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UN Proper Shipping Name

ADN: Not dangerous goods
ADR: Not dangerous goods
International Air Transport Association – Cargo: Not dangerous goods
International Air Transport Association – Passenger: Not dangerous goods
International Maritime Dangerous Goods: Not dangerous goods
RID: Not dangerous goods

Transport Hazard Class(es)

ADN: Not dangerous goods
ADR: Not dangerous goods
International Air Transport Association – Cargo: Not dangerous goods
International Air Transport Association – Passenger: Not dangerous goods
International Maritime Dangerous Goods: Not dangerous goods
RID: Not dangerous goods

Packing Group

ADN: Not dangerous goods
ADR: Not dangerous goods
International Air Transport Association – Cargo: Not dangerous goods
International Air Transport Association – Passenger: Not dangerous goods
International Maritime Dangerous Goods: Not dangerous goods
RID: Not dangerous goods

Environmental Hazards

ADN: Not applicable
ADR: Not applicable
International Air Transport Association – Cargo: Not applicable
International Air Transport Association – Passenger: Not applicable

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| | |
|---|----------------|
| International Maritime Dangerous Goods: | Not applicable |
| RID: | Not applicable |
| Special Precautions for User: | Not applicable |
| Transport in Bulk According to Annex II of MARPOL 73/78 and The IBC Code | |
| Ship Type: | Not applicable |
| Hazard Code(s): | Not applicable |
| Pollutant Category: | Not applicable |

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to shipment.

Section 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for The Substance or Mixture

| | |
|--|----------------|
| Regulation (EC) No 1005/2009 on Substances That Deplete the Ozone Layer: | Not applicable |
| Regulation (EC) No 850/2004 on Persistent Organic Pollutants: | Not applicable |
| REACH – List of Substances Subject to Authorisation (Annex XIV): | Not applicable |
| REACH – Candidate List of Substances of Very High Concern for Authorisation (Article 59): | Not applicable |
| Regulation (EC) No 649/2012 of The European Parliament and The Council concerning the Export and Import of Dangerous Chemicals: | Not applicable |
| REACH – Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles (Annex XVII): | Not applicable |

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Seveso III: Directive 2012/18/EU of The European Parliament and of The Council on the Control of Major-Accident Hazards Involving Dangerous Substances: Not applicable

The Components Of This Product are Reported in the Following Inventories:

DSL: All components of this product are on the Canadian DSL.
AICS: On the inventory, or in compliance with the inventory.
ENCS: On the inventory, or in compliance with the inventory.
KECI: On the inventory, or in compliance with the inventory.
PICCS: On the inventory, or in compliance with the inventory.
IECSC: On the inventory, or in compliance with the inventory.
TCSI: On the inventory, or in compliance with the inventory.
TSCA: On TSCA Inventory
Inventories: AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA).
Chemical Safety Assessment: No data available

Section 16: OTHER INFORMATION

Full Text of H-Statements

List of Abbreviations and Acronyms that Could Be, But Not Necessarily Are, Used in this Safety Data Sheet:

ACGIH: American Conference of Industrial Hygienists
BEI: Biological Exposure Index
CAS: Chemical Abstracts Service (Division of the American Chemical Society)
CMR: Carcinogenic, Mutagenic or Toxic for Reproduction
FG: Food Grade
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
H-Statement: Hazard Statement
IATA: International Air Transport Association
IATA-DGR: Dangerous Good Regulation by the "International Air Transport Association" (IATA).
ICAO: International Civil Aviation Organization

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| ICAO-TI (ICAO): | Technical Instructions by the "International Civil Aviation Organization" |
| IMDG: | International Maritime Code for Dangerous Goods |
| ISO: | International Organization for Standardization |
| logPow: | Octanol-water Partition Coefficient |
| LCxx: | Lethal Concentration, for xx percent of test population |
| LDxx: | Lethal Dose, for xx percent of test population |
| ICxx: | Inhibitory Concentration for xx of a substance |
| ECxx: | Effective Concentration of xx |
| N.O.S: | Not Otherwise Specified |
| OECD: | Organization for Economic Co-operation and Development |
| OEL: | Occupational Exposure Limit |
| P-Statement: | Precautionary Statement |
| PBT: | Persistent, Bioaccumulative and Toxic |
| PPE: | Personal Protective Equipment |
| STEL: | Short-term Exposure Limit |
| STOT: | Specific Target Organ Toxicity |
| TLV: | Threshold Limit Value |
| TWA: | Time-Weighted Average |
| vPvB: | Very Persistent and Very Bioaccumulative |
| WEL: | Workplace Exposure Level |
| ABM: | Water Hazard Class for the Netherlands |
| ADR: | Agreement concerning the International Carriage of Dangerous Good by Road |
| ADNR: | Regulation for the Carriage of Dangerous Substances on the Rhine |
| CLP: | Classification, Labelling and Packaging |
| CSA: | Chemical Safety Assessment |
| CSR: | Chemical Safety Report |
| DNEL: | Derived No Effect Level |
| EINECS: | European Inventory of Existing Commercial Chemical Substances |
| ELINCS: | European List of Notified Chemical Substances |
| GV: | Exposure Limits (DK) |
| PEC: | Predicted Effect Concentration |
| PNEC: | Predicted No Effect Concentration |

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R-Phrase: Risk Phrase
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail
S-Phrase: Safety Phrase
WGK: German Water Hazard Class

Disclaimer:

The information contained herein is based on data available to us and is believed to be true and accurate. However, no guarantee or warranty is provided, expressed or implied, by the company or its subsidiaries regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained from the use thereof. Since the use of this product is within the exclusive control of the user, we do not assume any responsibility and expressly disclaim any liability for any use of this product. It is the user's responsibility to determine the conditions of safe use, storage, and disposal of the product. Compliance with all applicable federal, provincial, and local regulations remains the responsibility of the user.

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