Material Safety Data Sheet

NOV Hi Yield Gel™

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: NOV Hi Yield Gel™ Date Revised: 7/2010
Generic Description: Premium Wyoming bentonite blended with special extenders

Supplier:

NOV FluidControl
4310 N. Sam Houston Parkway E
Houston, TX 77032
Office: (713) 482-0500
Fax: (713) 482-0695
Company website: www.nov.com

Emergency Telephone Number:
CHEMTREC: 1-800-424-9300 or International +1-703-527-3887

II. COMPOSITION

<table>
<thead>
<tr>
<th>Material or Component</th>
<th>CAS Number</th>
<th>OSHA PEL</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite</td>
<td>1302-78-9</td>
<td></td>
<td>80-95%</td>
</tr>
<tr>
<td>Silica, crystalline, quartz</td>
<td>14808-60-7</td>
<td>(Case 7778-18-9 also applies)</td>
<td>2-15%</td>
</tr>
<tr>
<td>Gypsum (Calcium sulfate)</td>
<td>13397-24-5</td>
<td></td>
<td>0-1%</td>
</tr>
<tr>
<td>Silica, crystalline, Tridymite</td>
<td>15468-32-3</td>
<td></td>
<td>0-1%</td>
</tr>
</tbody>
</table>

III. HAZARDS IDENTIFICATION

Emergency Overview: Caution! May cause eye, skin, and respiratory tract irritation. Long term inhalation of particulates may cause lung damage. Cancer hazard. Contains crystalline silica which may cause cancer.

Canadian Classification:
UN PIN No: Not regulated
WHMIS Class: D2A

Physical: Powder
Odor: Odorless
Color: Tan to Grey

Eyes: May cause mechanical irritation.

Skin: May cause mechanical irritation. Long term contact can cause skin dryness.

Ingestion: May cause gastric distress, nausea and vomiting if ingested.

Inhalation: May cause mechanical irritation.
HAZARDS IDENTIFICATION CONTINUED

Carcinogenicity & Chronic Effects:
See Section XII - Toxicological Information.

Routes of Exposure:
Eyes. Dermal (skin) contact. Inhalation.

Target Organs/Medical Conditions Aggravated by Overexposure:
Eyes. Skin. Respiratory System.

IV. FIRST AID MEASURES

Eye:
Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Skin:
Wash skin thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if any discomfort continues.

Ingestion:
Dilute with 2 - 3 glasses of water or milk, if conscious. Never give anything by mouth to an unconscious person. If signs of irritation or toxicity occur seek medical attention.

Inhalation:
Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

General Notes:
Persons seeking medical attention should carry a copy of this MSDS with them.

V. FIRE AND EXPLOSION DATA

Flammable Properties
Flash Point: F (C): NA
Flammable Limits in Air - Lower (%): NA
Flammable Limits in Air - Upper (%): NA
Autoignition Temperature: F(C) NA
Flammability Class: NA
Other Flammable Properties: ND
Extinguishing Media: This material is not combustible. Use extinguishing media appropriate for surrounding fire.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures: Do not enter fire area without proper personal protective equipment, including NIOSH/MSHA approved self-contained breathing apparatus. Evacuate area and fight fire from a safe distance. Water spray may be used to keep fire-exposed containers cool. Keep water runoff out of sewers and waterways.

Hazardous Combustion Products: Not determined.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment identified in Section IX.

Spill Procedures: Evacuate surrounding area, if necessary. Wet product may create a slipping hazard. Contain spilted material. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.

Environmental Precautions: Waste must be disposed of in accordance with federal, state and local laws. Do not allow to enter sewers or surface and subsurface waters.
VII. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Avoid generating or breathing dust. Product is slippery if wet. Use only in a well ventilated area. Put on appropriate personal protective equipment. Wash thoroughly after handling.

Storage: Store in dry, well-ventilated area. Keep container closed. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>WT%</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>Other</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite</td>
<td>1302-78-9</td>
<td>80-95</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>(1)</td>
</tr>
<tr>
<td>Silica, crystalline, quartz</td>
<td>14808-60-7</td>
<td>2-15</td>
<td>0.05 mg/m³</td>
<td>see Table Z-3</td>
<td>NIOSH: 0.05 mg/m³ TWA (10H day/40Hwk)</td>
<td>(R)</td>
</tr>
<tr>
<td>Gypsum (Calcium sulfate) (CAS 7778-18-9 also applies.)</td>
<td>13397-24-5</td>
<td>0-1</td>
<td>10 mg/m³</td>
<td>15 mg/m³ (total); 5 mg/m³ (respirable)</td>
<td>NA</td>
<td>None</td>
</tr>
<tr>
<td>Silica, crystalline, Tridymite</td>
<td>15468-32-3</td>
<td>0-1</td>
<td>0.05 mg/m³</td>
<td>see Table Z-3</td>
<td>NA</td>
<td>(R)</td>
</tr>
</tbody>
</table>

Notes
(1) Control as an ACGIH particulate not otherwise specified (PNOS): 10 mg/m³ (Inhalable); 3 mg/m³ (Respirable) and an OSHA particulate not otherwise regulated (PNOR): 15 mg/m³ (Total); 5 mg/m³ (Respirable).
(R) Respirable fraction (ACGIH);
Table Z-3: PEL for Mineral Dusts containing crystalline silica are 10 mg/m³ / (%SiO₂+2) for quartz and 1/2 the calculated quartz value for cristobalite and tridymite.

Engineering Controls: Use appropriate engineering controls such as, exhaust ventilation and process enclosure, to ensure air contamination and keep workers exposure below the applicable limits.

IX. PERSONAL PROTECTION EQUIPMENT

Eye/Face Protection: Dust resistant safety goggles.

Skin Protection: Wear appropriate clothing to prevent repeated or prolonged skin contact. Chemical resistant gloves recommended for prolonged or repeated contact. Use protective gloves made of: Nitrile. Neoprene.

Respiratory Protection: Use at least a NIOSH-approved N95 half-mask disposable or reusable particulate respirator (dusk mask). In work environments containing oil mist/aerosol, use at least NIOSH-approved P95 half-mask disposable or reusable particulate respirator. For exposure exceeding 10 x PEL use a NIOSH-approved N100 Particulate Respirator.

General Hygiene Considerations: Work clothes should be washed separately at the end of each work day. Disposable clothing should be discarded, if contaminated with product.
X. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Tan to grey</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Physical State</td>
<td>Powder</td>
</tr>
<tr>
<td>pH</td>
<td>ND</td>
</tr>
<tr>
<td>Specific Gravity (H₂O = 1)</td>
<td>2.3 - 2.6</td>
</tr>
<tr>
<td>Solubility (Water)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>ND</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>ND</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>NA</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>NA</td>
</tr>
<tr>
<td>Odor Threshold(s)</td>
<td>ND</td>
</tr>
</tbody>
</table>

XI. STABILITY AND REACTIVITY

| Stability                        | Stable             |
| Conditions to Avoid              | ND                  |
| Materials to Avoid               | ND                  |
| Hazardous Decomposition Products | For thermal decomposition products, see Section 6. |
| Hazardous Polymerization         | Will not occur      |

XII. TOXICOLOGICAL INFORMATION

Component Toxicological Data: Any adverse component toxicological effects are listed below. If no effects are listed, no such data were found.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Component Toxicological Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, crystalline, quartz</td>
<td>Crystalline silica is the most widely occurring of all minerals. The most common form of silica is sand. The International Agency for Research on Cancer (IARC) has designated crystalline silica in the form of quartz or cristobalite a Group 1 (carcinogenic to humans). This designation was based on an increased risk of lung cancer among crystalline silica exposed workers. IARC did note that carcinogenicity of crystalline silica in humans was not detected in all industrial circumstances studied. Further, carcinogenicity of crystalline silica may be dependent on inherent characteristics of the crystalline silica or external factors affecting its biological activity or distribution of polymorphs. (IARC Vol. 68, 1997, p. 41). The National Toxicology Program (NTP) classifies crystalline silica as &quot;reasonably anticipated to cause cancer in humans&quot; (6th Annual Report on Carcinogens, 1991). Long term inhalation of crystalline silica can also result in the lung disease, silicosis. Symptoms of this disease include coughing and shortness of breath. (NJ HSFS, January 1996)</td>
</tr>
</tbody>
</table>

Product Toxicological Information:
Long term inhalation of particulate can cause irritation, inflammation and/or permanent injury to the lungs. Illnesses such as pneumoconiosis ("dusty lung"), pulmonary fibrosis, chronic bronchitis, emphysema and bronchial asthma may develop.
NOV Hi Yield Gel™ Material Safety Data Sheet

XIII. ECOLOGICAL INFORMATION

Biodegradation: ND
Bioaccumulation: ND
Octanol/Water Partition Coefficient: ND

XIV. DISPOSAL CONSIDERATIONS

Waste Classification: ND

Waste Management: Under U.S. Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine at the time of disposal, whether the product meets RCRA criteria for the hazardous waste. This is because product uses, transformations, mixtures, processes, etc., may render the resulting materials hazardous. Empty containers retain residues. All labeled precautions must be observed.

Disposal Method: Recover and reclaim or recycle, if practical. Should this product become a waste, dispose of in a permitted industrial landfill. Ensure that the containers are empty by the RCRA criteria prior to disposal in a permitted industrial landfill.

XV. TRANSPORT INFORMATION

U.S. DOT Shipping Description: Not regulated for transportation by DOT, TDG, IMDG, ICAO/IATA.
Canada TDG Shipping Description: Not regulated
UN PIN No: Not regulated
IMDG Shipping Description: Not regulated
ICAO/IATA Shipping Description: Not regulated

XVI. REGULATORY INFORMATION

U.S. Federal and State Regulations

SARA 311/312 Hazard Categories: Delayed (chronic) health hazard.

SARA 302/304, 313; CERCLA RQ, California Proposition 65:
Note: If no components are listed below, this product is not subject to the referenced SARA and CERCLA regulations and is not known to contain a Proposition 65 listed chemical at a level that is expected to pose a significant risk under anticipated use conditions.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>SARA 302 / TPQs</th>
<th>SARA 313</th>
<th>CERCLA RQ</th>
<th>CA 65 Cancer</th>
<th>CA 65 Dev. Tox.</th>
<th>CA 65 Repro. F</th>
<th>CA 65 Repro. M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, crystalline, quartz</td>
<td>__</td>
<td>__</td>
<td>__</td>
<td>X</td>
<td>__</td>
<td>__</td>
<td>__</td>
</tr>
<tr>
<td>Silica, crystalline, Tridymite</td>
<td>__</td>
<td>__</td>
<td>__</td>
<td>X</td>
<td>__</td>
<td>__</td>
<td>__</td>
</tr>
</tbody>
</table>
International Chemical Inventories
- Australia AICS - Components are listed or exempt from listing.
- Canada DSL - Components are listed or exempt from listing.
- China Inventory - Components are listed or exempt from listing.
- European Union EINECS - Components are listed or exempt from listing.
- Japan METI ENCS - Components are listed or exempt from listing.
- Korea TCCL ECL - Components are listed or exempt from listing.
- Philippine PICCS - Components are listed or exempt from listing.
- U.S. TSCA - Components are listed or exempt from listing.
- U.S. TSCA - No components are subject to TSCA 12(b) export notification requirements.

Canadian Classification:
Controlled Products Regulations Statement: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Class: D2A

XVII. OTHER INFORMATION

HMIS Rating
- Health: 1*  
- Flammability: 0  
- Physical Hazard: 0  
- PPE: E

HMIS Key: 4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal Hazard.
E = Safety glasses, gloves, dust respirator

*Chronic effects - See Section XII. See Section IX for Personal Protective Equipment recommendations.

DISCLAIMER:
Although the information and recommendations set forth herein (hereinafter “Information”) are presented in good faith and believed to be correct as of the date hereof, NOV FluidControl, makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the person receiving this MSDS will make own determination as to its suitability for their intended purpose prior to use. Since the product is within the exclusive control of the user, it is the user’s obligation to determine the conditions of safe use of this product. Such conditions should comply with all Federal Regulations concerning the Product. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HERUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

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