Material Safety Data Sheet

Lignite

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Lignite
Chemical Name: LEONARDITE Revised: 7/2010
Chemical Family: HUMIC ACID CAS#: 1415-93-6
Synonyms: LIGNITE, SUPERLIG, LEONARDITE

NFPA Properties: Health: 1 Flammability: 1 Reactivity: 1 Contact: 1

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. HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

TLV’s (ACGIH)

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>TWAPPM</th>
<th>TWA MG/M³</th>
<th>STEL PPM</th>
<th>STEL MG/M³</th>
<th>CAS#</th>
<th>LIMITS %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III. PHYSICAL/CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point °F:</td>
<td>N/A</td>
</tr>
<tr>
<td>Color</td>
<td>DARK BROWN</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.5</td>
</tr>
<tr>
<td>Odor</td>
<td>NEAR ODORLESS</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>N/A</td>
</tr>
<tr>
<td>Appearance:</td>
<td>POWDER</td>
</tr>
<tr>
<td>Percent Volatility:</td>
<td>N/A</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>N/A</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>NDA</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>N/A</td>
</tr>
<tr>
<td>Activity:</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility In Water:</td>
<td>NEGLIGIBLE (&lt;1%)</td>
</tr>
<tr>
<td>LC50:</td>
<td>NDA</td>
</tr>
<tr>
<td>Melting Point °F:</td>
<td>N/A</td>
</tr>
<tr>
<td>LD50:</td>
<td>NDA</td>
</tr>
</tbody>
</table>
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IV. FIRE & EXPLOSION HAZARD DATA

**Extinguishing Agents:** DRY CHEMICAL OR WATERSPRAY OR WATERFOG OR CO2 OR FOAM OR SAND & EARTH

**Flash Point °F:** >400F

**Flammable Limits:** LEL: N/A UEL: N/A

**Special Firefighting Procedures:** USE WATER TO KEEP CONTAINERS COOL

**Unusual Fire & Explosion Hazards:** PRODUCTS OF COMBUSTION MAY CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND OTHER TOXIC MATERIALS. DO NOT ENTER ENCLOSED OR CONFINED SPACE WITHOUT PROPER PERSONAL PROTECTIVE EQUIPMENT.

**Toxic Gases Produced:** CARBON MONOXIDE, CARBON DIOXIDE, AND OTHER TOXIC GASES.

V. HEALTH HAZARD DATA

**Routes of Entry:** Inhalation: YES Skin: YES Ingestion: YES

**Effects of Overexposure:** NONE

**Toxicological Properties:** NDA

**Chronic & Acute Effects of Overexposure:** NONE

**Carcinogenicity:** NTP: NO IARC Monographs: NO OSHA Regulated: NO

**Emergency First Aid Procedures**

**Eyes:** IMMEDIATELY FLUSH WITH LARGE QUANTITIES OF WATER FOR AT LEAST 15 MINUTES AND CALL A PHYSICIAN.

**Skin Contact:** FLUSH WITH LARGE AMOUNTS OF SOAP & WATER FOR 15 MINUTES.

**Inhalation:** REMOVE TO FRESH AIR, IF BREATHING IS DIFFICULT, GIVE OXYGEN AND CALL A PHYSICIAN.

**Ingestion:** RINSE MOUTH, GIVE LARGE AMOUNTS OF WATER, AND CALL A PHYSICIAN. NEVER GIVE ANYTHING MOUTH-TO-MOUTH TO AN UNCONSCIOUS PERSON. MAY CAUSE NAUSEA, VOMITING AND IRRITATION OF THE INGESTIONAL TRACT.

N/A = Not Applicable NDA = No Data Available

VI. REACTIVITY DATA

**Stability:** STABLE Hazardous Polymerization: WILL NOT OCCUR

**Hazardous Decomposition Products:** THERMAL DECOMPOSITION MAY INCLUDE, CARBON MONOXIDE, CARBON DIOXIDE, SMOKE, FUMES

**Conditions to Avoid:** HEAT, SPARKS, IGNITION SOURCES

**Incompatibility and Materials to Avoid:** NONE

VII. SPILL & DISPOSAL PROCEDURES

**Steps To Be Taken in Case Material is Released or Spilled --- Procedures For Clean – Up:** WASH AREA WITH WATER. SPILLS OR RELEASES OF THIS MATERIAL DO NOT CURRENTLY TRIGGER THE EMERGENCY RELEASE REPORTING REQUIREMENTS UNDER THE FEDERAL SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA). STATE AND LOCAL LAWS MAY DIFFER FROM FEDERAL LAW. CONSULT COUNSEL FOR FURTHER GUIDANCE ON YOUR RESPONSIBILITIES UNDER THES LAWS.

**Waste Disposal Method:** DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

**Precautions to Be Taken In Handling & Storage:** NONE
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VIII. PROTECTIVE EQUIPMENT

Ventilation Type Required: MECHANICAL
Protective Gloves: RUBBER, RECOMMENDED
Respiratory Protection: WEAR A NIOSH APPROVED MASK IF CONCENTRATION IS TO EXCEED TLV
Other Protective Equipment: USE EXPLOSION PROOF EQUIPMENT FOR HIGH CONCENTRATIONS OF VAPOR.
Comments:

IX. REGULATORY & TRANSPORTATION INFORMATION

US DOT Proper Shipping Name: “OIL – WELL TREATING COMPOUND”
US DOT Hazard Class: DOT ID Number:
ID Number: Freight Classification:
Unregulated By DOT: Regulated by DOT: NO
Special Transportation Note:
Labels Required:

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