



Jeb Bush  
Governor

File 1 Barbara

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

David B. Struhs  
Secretary

November 20, 2000

Mr. Mike Roddy  
Senior Environmental Engineer  
Seminole Electric Cooperative, Inc.  
16313 N. Dale Mabry Highway  
Tampa, Florida 33688-2000

Re: Recognition of Latex Binder as a Dust Suppressant

Dear Mr. Roddy:

We have received your request to begin using a latex binder on your coal as a means of suppressing fugitive dust (Latex DL 298NA, made by DOW Chemical Company). We have also received a certification from your Professional Engineer detailing the lack of detrimental environmental effects resulting from the use of this product.

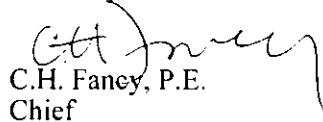
It is our opinion that this particular material falls within the classification of "chemical dust suppressant" that is authorized by your Title V permit (see Appendix TV-3, condition 57.). This authorization is only valid if the Latex DL 298NA is used as a surface coating dust suppressant. We have not reviewed, nor approved, the use of Latex DL 298NA as a "glue" for binding coal dust together to form a pellet or briquette. This type of use would require a permit revision to identify a new method of operation.

For inspection purposes, please retain on-site a copy of the material safety data sheet (MSDS), a copy of your contract with the coal supplier specifying the material that will be applied to your coal, and a certification from the supplier accompanying each delivery that attests that Latex DL 298NA is the only material that has been applied to your coal. If Seminole Electric or the coal supplier desires to use a different material, you must inform the Department and receive concurrence prior to combusting the new product.

Under the provisions of Rule 62-297.310(7)(b), F.A.C., if, at any time, the Department has reason to believe that any of your emission limits are not being met (i.e. increased particulate matter, etc.), it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

Should you have any questions regarding this matter, please contact Jonathan Holtom, P.E., at (850) 921-9531, or write to me at the above letter head address.

Sincerely,

  
C.H. Fancy, P.E.  
Chief

Bureau of Air Regulation

CHF/jh

cc: Mr. Mike Opalinski, Seminole Electric Cooperative  
Mr. Thomas W. Davis, P.E., ECT  
Mr. Buck Oven, P.E., DEP  
Mr. Chris Kirts, P.E., DEP-NED

"More Protection. Less Process"

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November 11, 2000

RECEIVED

NOV 17 2000

Mr. Jonathan Holtom  
Florida Department of Environmental Protection  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

BUREAU OF AIR REGULATION

Dear Mr. Holtom:

Seminole Electric Cooperative, Inc.(SECI) is currently in the process of evaluating coal supply bid proposals. One of the proposals involves Synfuel supplied by TECO Coal Corporation. This Synfuel is pelletized raw coal held together with a *Covol Technologies, Inc.* polymer binder which only comprises 0.1 % by weight of the coal pellets. Attached please find copies of the Material Safety Data Sheets for both the Synfuel pellets and the polymer binder (Latex DL 298NA ) along with the Professional Engineer's Certification. SECI is currently considering the purchase of 300,000 tons of this fuel and would like the Department's concurrence as to its use. We are on an extremely tight schedule for the contract negotiations and would greatly appreciate a response as soon as possible.

Thank you for your assistance in this matter and if you have any questions or require additional information please call me at (813) 963-0994 extension 1224.

Sincerely,

Mike Roddy  
Senior Environmental Engineer



**Environmental Consulting & Technology, Inc.**

November 15, 2000

Mr. Mike Roddy  
Senior Environmental Engineer  
Seminole Electric Cooperative, Inc.  
16313 North Dale Mabry Highway  
Tampa, FL 33688-2000

**Re: Seminole Electric Cooperative, Inc.  
Palatka Power Plant  
FDEP Final Permit No.: 1070025-001-AV  
Use of Synthetic Fuel Pellets**

Dear Mr. Roddy:

In response to a request by the Florida Department of Environmental Protection (FDEP), this letter provides a professional engineer certification with respect to several environmental issues concerning the use of synthetic fuel pellets. The synthetic fuel pellets consist of coal that has been treated with a binder. The coal binder will serve to reduce fugitive particulate matter emissions during synthetic fuel pellet handling and storage. This certification addresses the collateral issues of: (a) potential emissions of volatile organic compound (VOC) emissions, (b) binder combustion emissions, and (c) potential surface runoff contamination. Each of these issues are discussed in the following sections:

**A. Potential for VOC Emissions**

The synthetic fuel pellet binder (LATEX DL 298NA) is a latex material manufactured by the Dow Chemical Company. The Material Safety Data Sheet (MSDS) indicates that the product is a milky white liquid emulsion comprised of a proprietary carboxylated styrene/butadiene polymer (from 40 to 62 percent by weight) and water (from 38 to 60 percent by weight). The physical and chemical properties section of the MSDS shows a vapor pressure of 17.5 mm Hg (0.338 psia) at 20°C (68°F) and a boiling point of 100°C (212°F) for the latex polymer/water product. Pure water at 20°C has the same vapor pressure and boiling point. Accordingly, the latex polymer component of the LATEX DL 298NA polymer/water mixture does not contribute to the volatility to the product. VOC emissions due to evaporative losses from the binder will therefore be negligible.

**B. Synthetic Fuel Pellet Binder Combustion Emissions**

The LATEX DL 298NA material is a liquid emulsion comprised of a polymerized hydrocarbon (i.e., carboxylated styrene/butadiene polymer) and water. The high

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combustion temperatures and combustion residence times occurring in the Palatka Power Plant coal-fired units would be expected to result in essentially complete combustion of the LATEX DL 298NA material to carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O). The LATEX DL 298NA material also represents a very small portion of the synthetic fuel pellets (i.e., 0.1 weight percent).

### C. Potential Surface Runoff Contamination

The LATEX DL 298NA MSDS indicates that the polymer component of the LATEX DL 298NA material is insoluble in water. Once applied, the polymer component of the LATEX DL 298NA material would be expected to remain with the synthetic fuel pellet (due to its insolubility in water) and ultimately be oxidized in the Palatka Power Plant boilers. Surface runoff from the synthetic fuel pellet handling and storage areas would therefore be expected to have negligible amounts of the water insoluble polymer component of the LATEX DL 298NA binder material.

Please contact me at (352) 332-6230, Ext. 351 if there are any questions regarding this certification.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.




Thomas W. Davis, P.E.  
Principal Engineer

### Professional Engineer Statement

*I, the undersigned, hereby certify that:*

To the best of my knowledge, the emission estimates reported in this certification are true, accurate, and complete based upon reasonable techniques available for estimating emissions.



Signature  
Professional Engineer No. 36777

11/15/00  
Date



## Material Safety Data Sheet

**Product Name:** Synthetic Fuel Pellets

**Manufacturer:** Covol Technologies, Inc.  
3280 North Frontage Road  
Lehi, UT 84043

**Emergency Telephone Number:** 801-768-4481 / 1-800-316-6214

**Information Telephone Number:** 801-768-4481

**Date Prepared:** September 17, 1998

1. Composition/Information on Ingredients

A Component:

1. 85-99% Coal
2. 1-15% H<sub>2</sub>O
3. 0.1% Proprietary Carboxylated Styrene/Butadiene Polymer

2. Physical Qualities

Boiling Point	=	N/A
Specific Gravity (H <sub>2</sub> O) = 1	=	1.2 to 1.6
Vapor Pressure (mm Hg) 25 C	=	Negligible
Melting Point	=	> 350 C
Vapor Density (air = 1)	=	N/A
Evaporation Rate (Bu ACC = 1)	=	N/A
Solubility in Water	=	Negligible
Appearance and Odor	=	Black or Brownish-Black Pellets, little or no odor.

3. Fire and Explosion Hazard

Flash Point (Method Used): None Reported

Flammable Limits: LEL: >0.05 oz/FT3 UEL: None Reported

Extinguishing Media: Nitrogen, carbon dioxide, steam, water or ammonium diphosphate powder.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective gear when exposed to fire. Avoid creating dust.

Unusual Fire & Explosion Hazards: A fire hazard exists when exposed to heat or flame. Airborne coal dust is an explosion hazard.

4. Health Hazard & First Aid

Route(s) of Entry: Inhalation? Yes Skin? No Ingestion? No

**Summary of Risks:** Coal workers' pneumoconiosis is the occupational disease caused by prolonged retention of abnormal amounts of dusts in lungs. It can occur after years of excessive exposure to respirable coal dust in coal mining, handling, and processing. Respirable quartz particulate can be simultaneously present with the coal. There are two forms of coal workers' pneumoconiosis: simple and complicated (progressive massive fibrosis). Simple pneumoconiosis results from inhalation and retention of excessive airborne dust. Complicated pneumoconiosis develops in lungs already affected by simple pneumoconiosis. In many cases, coal workers' pneumoconiosis does not progress beyond the simple stage.

**Target Organs:** Lungs

**Acute Effects:** Symptoms of inhalation of excessive amounts of coal dust include coughing, wheezing, and shortness of breath.

**Chronic Effects:** Chronic bronchitis and emphysema are reported to result from excessive coal dust inhalation. Individuals having rheumatoid arthritis in conjunction with simple coal workers' pneumoconiosis may have rapidly developing lung damage (Caplan's Syndrome).

**Medical Conditions Usually Aggravated by Exposure:** Pulmonary disorders.

5. Emergency and First Aid Procedures

**Eyes:** Gently lift the eyelids and flush continuously with water for 15 minutes. Consult a physician as needed.

**Skin:** For reddened or blistered skin, consult a physician. Wash affected area with soap and water.

**Inhalation:** Remove exposed person to fresh air. Seek medical attention if needed.

**Ingestion:** Never give anything by mouth to an unconscious or convulsing person. If ingested, have person drink 1 to 2 glasses of water, then induce vomiting repeatedly.

**Carcinogenicity:** N.T.P.? None Known IARC monographs? None Known

**OSHA Regulated?** None Known

6. Reactivity

**Stability:** Stable

**Conditions to Avoid:** Coal can react slowly with oxygen at room temperature; heat can accelerate the process. Moderate, spontaneous heating may occur. Slightly explosive when exposed to flame.

**Incompatibility:** (Materials to avoid): Strong oxidizing agents.

**Hazardous Decomposition or Byproducts:** Oxides of carbon, nitrogen, sulfur, soot, fly ash, and partially oxidized hydrocarbons.

**Hazardous Polymerization:** Will Not Occur.

**Conditions to Avoid:** None.



7. Spill or Leak Procedures

**Steps To Be Taken in Case Material is Released or Spilled:** Notify safety personnel and remove all heat and ignition sources. Do not create any unnecessary airborne dust. Avoid inhalation. Use water mist to reduce dust. Provide ventilation, as appropriate. Use personal protection for respiratory, skin and eyes.

**Waste Disposal Method:** Follow applicable federal, state and local regulations.

8. Protection Information

**Respiratory Protection:** NIOSH certified particulate respirator for pneumoconiosis producing dust.

**Ventilation:**

Local Exhaust - To Control Dust. Special - None  
Mechanical (Gen) - To Control Dust. Other - None

**Protective Gloves:** Impervious Gloves.

**Eye Protection:** Eye glasses with side shields or goggles.

**Other Protective Clothing or Equipment:** Industrial hygiene survey of exposures would provide data needed to determine other precautions.

**Work/Hygienic Practices:** Avoid eating, drinking and smoking in work areas.  
Practice good personal hygiene after using this material.

9. Disclaimer

While the information contained herein was derived from sources believed to be reliable, Covol neither expressly nor impliedly warrants the information as accurate and complete and assumes no responsibility for same. The data is provided solely for your consideration & investigation.

10. Storage and Handling

**Precautions to be Taken in Handling and Storing:** Keep sources of heat and ignition, flammable materials and strong oxidizing agents away from areas where coal dust may collect. Prevent static spark.

**Other Precautions:** Certain conditions could create overexposure to coal dust or to trace elements. These activities should be evaluated for compliance with applicable materials.

11. Transportation

<b>Transportation Data:</b>	(49 CFR 172.10)
<b>DOT Shipping Name:</b>	Coal ground bituminous, see coal, or coal facings.
<b>DOT Hazard Class:</b>	Flammable Solid.
<b>ID No.</b>	NA 1381
<b>DOT Label:</b>	Flammable Solid
<b>DOT Packaging Exceptions:</b>	173.165
<b>DOT Packaging Requirements:</b>	173.165

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1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-HOUR EMERGENCY PHONE NUMBER: 517-636-4400

Product: LATEX DL 298NA

Product Code: 61584

Effective Date: 01/07/99      Date Printed: 04/25/00      MSD: 005213

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

Proprietary carboxylated styrene/  
butadiene polymer  
Water

CAS# 007732-18-5

40-62%  
38-60%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

\*\*\*\*\*  
\* Milky white liquid emulsion. Slight odor. No significant immediate \*  
\* hazards for emergency response are known. Dike and contain spills. \*  
\* Avoid dilution of spills. \*  
\*\*\*\*\*

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight transient (temporary) eye irritation.  
Corneal injury is unlikely.

SKIN: Short single exposure not likely to cause significant skin  
irritation. Prolonged or repeated exposure may cause slight  
skin irritation. Material may stick to skin causing irritation  
upon removal. A single prolonged exposure is not likely to  
result in the material being absorbed through the skin in  
harmful amounts.

INGESTION: Single dose oral toxicity is considered to be  
extremely low. No hazards anticipated from swallowing  
small amounts incidental to normal handling operations.

INHALATION: Single exposure to vapors is not likely to be  
hazardous.

SYSTEMIC & OTHER EFFECTS: No relevant information found.

CANCER INFORMATION: No relevant information found.

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3. HAZARDS IDENTIFICATION (CONTINUED)

TERATOLOGY (BIRTH DEFECTS): No relevant information found.

REPRODUCTIVE EFFECTS: No relevant information found.

4. FIRST AID

EYES: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: Not applicable

METHOD USED: Not applicable

AUTOIGNITION TEMPERATURE: Not applicable

FLAMMABILITY LIMITS:

LFL: Not applicable

UFL: Not applicable

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to hydrocarbons, carbon monoxide and dense smoke.

OTHER FLAMMABILITY INFORMATION: This material will not burn until the water has evaporated. Residue can burn.

EXTINGUISHING MEDIA: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area

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5. FIRE FIGHTING MEASURES (CONTINUED)

and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Avoid contact with eyes and skin.

PROTECT THE ENVIRONMENT: Contain material to prevent contamination of soil, surface water or ground water.

CLEANUP: Recover and recycle spilled latex if possible, otherwise collect with absorbent material and transfer to appropriate containers for disposal. Water may be used for final cleaning of affected area.

7. HANDLING AND STORAGE

HANDLING: Practice reasonable care to avoid repeated, prolonged skin contact. Addition of chemicals may cause coagulation.

STORAGE: Store at temperatures between 40F and 110F. May coagulate if frozen at 32F, 0C. Material may develop bacteria odor on long-term storage. No safety problems known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: Wear clean, long-sleeved, body-covering clothing. Use gloves impervious to this material.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

RESPIRATORY PROTECTION: No respiratory protection should be needed.

EXPOSURE GUIDELINE(S): None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Milky white liquid emulsion.  
ODOR: Slight odor.  
VAPOR PRESSURE: 17.5 mmHg @ 20C  
VAPOR DENSITY: 0.624 @ 80F  
BOILING POINT: 212F, 100C  
SOLUBILITY IN WATER: Latex as sold is dilutable. Polymer component is insoluble.  
SPECIFIC GRAVITY: .980 - 1.040

The physical data listed are for a series of latexes. For specific properties on any given latex, see the product bulletin.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under recommended storage conditions. See storage section.

CONDITIONS TO AVOID: Active ingredient decomposes at elevated temperatures. Product can decompose at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend upon temperature, air supply and the presence of other materials.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The dermal LD50 has not been determined.

INGESTION: The oral LD50 for rats is > 5000mg/kg for similar materials.

MUTAGENICITY: No relevant information found.

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- 12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: No bioconcentration of the polymeric component is expected because of its high molecular weight. Latex dispersions will color water a milky white.

DEGRADATION & TRANSFORMATION: The polymeric component is not expected to biodegrade.

ECOTOXICOLOGY: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species).

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL METHOD: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED OR UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator or other thermal destruction device.

As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 517-832-1556 for further details.

14. TRANSPORT INFORMATION

CANADIAN TDG INFORMATION:

For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your Dow representative.

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14. TRANSPORT INFORMATION (CONTINUED)

U. S. DEPARTMENT OF TRANSPORTATION (D.O.T.):

This product is not regulated by DOT when shipped domestically by land.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

This product is not a "Controlled Product" under WHMIS.

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MATERIAL SAFETY DATA SHEET

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REGULATORY INFORMATION: (CONTINUED)

16. OTHER INFORMATION

MSDS STATUS: Revised Section 13