"Polymer Snow"

Emerging Technologies inc.

MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ***Norsocryl® FX007***

EFFECTIVE DATE: 15 March 2004

CHEMICAL FAMILY: Polyacrylate salt

CHEMICAL NAME: Sodium polyacrylate

COMPANY IDENTIFICATION:
Emerging Technologies Inc.
400A Edwardia Drive
Greensboro, NC 27409 USA

EMERGENCY TELEPHONE: 24 hours a day, 7 days a week
CHEMTREC 1-800-424-9300

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER	Typical %	OSHA Hazard
Sodium Polyacrylate	9033-79-8	>99	Y

The substance(s) marked with a "Y" in the OSHA column are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

The components of this product are all on the TSCA Inventory list.

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview
White Odorless Powder
CAUTION!
MAY CAUSE EYE AND SKIN IRRITATION
MAY FORM EXPLOSIVE DUST-AIR MIXTURES
IMPROPER TRANSFER MAY CAUSE ELECTROSTATIC SPARK

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on its composition, it is anticipated to be slightly irritation to eyes and skin. Repeated or prolonged inhalation may cause cough, shortness of breath, wheezing, and impairment of lung function. Medical conditions that may be aggravated by exposure to this material include lung disease or limited respiratory capacity.

SECTION 4 –FIRST AID MEASURES

IF IN EYES: Immediately flush with plenty of water. Remove particles remaining under the eyelids. Get medical attention if irritation persists.

IF ON SKIN, immediately wash with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Thoroughly clean shoes before reuse.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED: Remove to fresh air. If breathing is difficult, get medical attention.

SECTION 5 – FIRE-FIGHTING MEASURES

Fire and Explosive Properties

Auto –Ignition Temperature	> 440 °C	
Flash Point	NA	Flash Point Method
Flammable Limits - Upper	NA	
Lower	NA	

Extinguishing Media
Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions
Do NOT use a solid stream of water. A solid stream of water can cause a dust explosion. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards
Dust can ignite or explode under extreme conditions. NOTE: For any operation involving this product, use only Class II electrical equipment. Ensure that all equipment is adequately grounded. As with any dry material, pouring this product or allowing it to free fall or to be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or of any flammable materials which may come in contact with the material or its container.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak
Stop the leak, if possible. Ventilate the space involved. Absorb, sweep up, place in container for disposal. Reduce dust spreading with a water spray. Shut off or remove all ignition sources. Prevent waterway contamination. Construct a dike to prevent spreading. Protect workers with water spray. Collect run-off water and transfer to drums or tanks for later disposal. Avoid creating a dusty atmosphere. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Clean up procedures: Transfer to containers, preparatory for later disposal. Avoid generation of dusts. Place in non-sparking containers for recovery or disposal. Remove from spill location. Flush area with water spray, collect rinsate.

SECTION 7 – HANDLING AND STORAGE

Handling
Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing dust and processing vapors. Keep container tightly closed. Process using adequate ventilation. Avoid creating dusts in handling, transfer or clean up. Keep away from heat, sparks, and flames. Avoid breathing dust. Dust particles absorb water and swell upon contact with moist tissue. CONTAINER HAZARDOUS WHEN EMPTY. Emptied container retains product residual. FOLLOW LABELED WARNINGS EVEN AFTER CONTAINER IS EMPTIED. RESIDUAL DUSTS MAY EXPLODE ON IGNITION. DO NOT CUT, GRIND, OR WELD ON OR NEAR THIS CONTAINER. Improper disposal or reuse of this container may be dangerous and/or illegal.

Storage
Store in a cool dry place. This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage.

SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering Controls
Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposure. Dilution ventilation acceptable, but local mechanical exhaust ventilation preferred, if practical, at sources of air contamination such as open process equipment.

Eye Protection
Where eye contact may be likely, wear chemical goggles and have eye-flushing equipment available.

Skin Protection
Minimize skin contamination by following good industrial practice. Wearing protective gloves is recommended for substances in solid form (i.e., powders, pellets, and granules). Wash hands and contaminated skin thoroughly after handling.

Respiratory Protection
Avoid breathing fumes. Use NIOSH approved respiratory protection equipment appropriate to the material and/or its components where airborne exposure is likely. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer.
For emergency and other conditions where there may be a potential for significant exposure, use an approved full-face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR 1910.134.

Other Exposure Limits – Ingredients
*OSHA and ACGIH have not established specific exposure limits for this material. However, OSHA and ACGIH have established limits for nuisance dusts which are the least stringent exposure limits applicable to dusts. The OSHA PEL/TWA for nuisance dusts is 15 mg/m³ total dust (TD), and 5 mg/m³ respirable dust (RD). The ACGIH TLV/TWA for nuisance dusts called Particulates Not Otherwise Classified (PNOC) is 10 mg/m³ inhalable particulate and 3 mg/m³ respirable particles.

Airborne Exposure Guidelines for Ingredients

The components of this product have no established Airborne Exposure Guidelines.

-Only those components with exposure limits are printed in this section.
-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause other allergic reactions.
-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	White Odorless Powder
pH	NE
Specific Gravity	NE
Vapor Pressure	NA
Vapor Density	NA
Melting Point	NE
Freezing Point	NA
Boiling Point	NA
Solubility in Water	Insoluble
Bulk Density	400 – 500 kg/m³

SECTION 10– STABILITY AND REACTIVITY

Stability
This material is chemically stable under normal and anticipated storage and handling conditions.

Incompatibility
Contact with acids and strong oxidizing agents may cause a low energy release in the presence of air. Product swells in presence of water.

Hazardous Decomposition Products
Oxides of carbon and nitrogen can be liberated at high temperatures.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicological Information

Sodium polyacrylate
Single exposure (acute) studies indicate that this material is no more than slightly toxic to rats if swallowed (LD50 2,000 mg/kg) or is absorbed through skin (LD50 > 2,000 mg/kg), slightly irritating to rabbit eyes, and non-irritating to rabbit skin. No skin allergy was observed in guinea pigs or humans following repeated exposure. No adverse effects were observed following repeated application to the skin of rats. Repeated inhalation produced an increased incidence of lung tumors related to chronic alveolar inflammation in rats. No birth defects were observed in the offspring of rats following exposure during pregnancy. No genetic changes were observed in tests using bacteria or animals.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicological Information

Sodium Polyacrylate
This material is practically non-toxic to Daphnia magna (48-hr EC50 > 1000 mg/l), trout (96-hr LC50 700 mg/l), bluegill sunfish (96-hr LC50 > 1000 mg/l), zebra fish (96-hr LC50 > 200 mg/l), earthworms (96-hr LC50 > 1000 mg/l), and algae (EC10 180 mg/l). The EC50 value for bacteria (sludge O2/glucose consumption) was > 100 mg/l.

SECTION 12 – ECOLOGICAL INFORMATION, continued

In a 21-day daphnia magna reproductive study, the NOEC was 6/6 mg/l. The NOEC value in a chronic early life stage with fathead minnows was 56 mg/l.

Chemical Fate Information

Sodium polyacrylate
This material was evaluated in a semi-continuous activated sludge (SCAS) test, and 37.5% removal was noted. In the continuous activated sludge (CAS) test, there was 75% overall removal with 3 mg/l test concentrations and 62% overall removal with 10 mg/l test concentration. Lowering the molecular weight by ozonization improved the biodegradability. Material of molecular weight 1000 to 100 biodegraded during 34 days of incubation in riverbed mud, but some of the lower molecular weight compounds produced in the ozonization process remained. In CO_2 evolution assays, CO_2 evolution ranged from 8.1 to 15.6%.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal

Recover, reclaim, or recycle when practical.

Disposal via incineration is recommended. Appropriate pretreatment and disposal in an authorized landfill is acceptable. In all cases, dispose of material in accordance with all applicable federal, state, and local laws and regulations. Consult appropriate regulatory officials or your attorney for information on such disposal.

Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

SECTION 14 – TRANSPORTATION INFORMATION

DOT Name	Not regulated
DOT Technical Name	
DOT Hazard Class	
UN Number	
DOT Packing Group	PG
RQ	

SECTION 15 –REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

INVENTORIES:

EINECS (EU): conforms
TSCA (USA): conforms
AICS (Australia): conforms
ECL (Korea): conforms

Ingredient Related Regulatory Information:

SARA Reportable Quantities

	CERCLA RQ	SARA TPQ
Sodium polyacrylate	NE	

SECTION 16 – OTHER INFORMATION

Revision Information:

Revision Date: 15 March 2004
Supercedes Revision Dated: 17 July 2002 February 1998

Key: N/A – Not Applicable NE – Not Established

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