MATERIAL SAFETY DATA SHEET

Emerging Technologies inc.

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ***LiquiBlock™ 80*** EFFECTIVE DATE: 1 November 2006

CHEMICAL FAMILY: Polyacrylate salt

CHEMICAL NAME: Sodium polyacrylate

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

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

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

CAS #	Component	Percent	OSHA HAZARD
9003-04-7	Sodium Polyacrylate		
Not Available	Post Treated – Trade Secret		

Component Information / Information on Non-Hazardous Components

The components of this product are not regulated as hazardous under 29 CFR and 49 CFR. However, the manufacturer recognizes the potential for respiratory tract irritation as a result of inhalation of this material as a respirable dust. See Sections 8, 11, 14, and 15 for further regulatory information.

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview

Sodium polyacrylate is a white, granular, odorless polymer that yields a gel-like material with the addition of water. It is insoluble in water and causes extremely slippery conditions when wet. Although not regulated as a hazardous material, the respirable dust is potential respiratory tract irritant. The manufacturer recommends an eight-hour exposure limit of 0.05 mg/m^3.

Potential Health Effects: Eyes

Dust may cause burning, drying, itching, and other discomfort, resulting in reddening of the eyes.

Potential Health Effects: Skin

Exposure to the dust, such as in manufacturing, may aggravate existing skin conditions due to drying effect.

Potential Health Effects: Ingestion

Although not a likely route of entry, tests have shown that polyacrylate absorbents are non-toxic if ingested. However, as in any instance of non-food consumption, seek medical attention in the event of any adverse symptoms.

Potential Health Effects: Inhalation

Exposure to respirable dust may cause respiratory tract and lung irritation and may aggravate existing respiratory conditions. Refer to Section 6 for important containment procedures.

HMIS Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic Hazard

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SECTION 4 –FIRST AID MEASURES

First Aid: Eyes
Immediately flush with plenty of water. Remove particles remaining under the eyelids. Get medical attention if irritation persists.
First Aid: Skin
Remove polyacrylate absorbent dust from skin using soap and water.
First Aid: Ingestion
Non-toxic by ingestion. However, if adverse symptoms appear, seek medical attention.
First Aid: Inhalation
If inhaled, move to source of fresh air. Seek medical attention if symptoms persist.

SECTION 5 – FIRE-FIGHTING MEASURES

General Fire Hazards
No recognized fire hazards associated with the finished product.
Fire and Explosive Properties

Flammability Classification:	None	
Flash Point	NA	Flash Point Method
Flammable Limits - Upper	NE	
Lower	NE	

Hazardous Combustion Products
None known.
Extinguishing Media
Dry chemical, foam, carbon dioxide, and water fog. Extremely slippery conditions are created if spilled product comes in contact with water.
Fire Fighting Instructions
Firefighters should wear full protective clothing including self-contained breathing apparatus.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic Hazard

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Containment Procedures
Avoid respirable dust. Do not sweep product. When possible, vacuum the product using a HEPA filter (mandatory when using a vacuum). If no vacuum is available, moisten the product, scoop up and place into an approved disposable container.

Clean up procedures
Use caution after contact of product with water, as extremely slippery conditions will result. Residuals maybe flushed with water into the drain for normal wastewater treatment. This is a non-hazardous waste suitable for disposal in an approved solid waste landfill.

Evacuation Procedures
None required.

Special Procedures
Avoid respirable dust inhalation during clean up. Wear appropriate respirator.

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SECTION 7 – HANDLING AND STORAGE

Handling

Handle as an eye and respiratory tract irritant.

Storage

Store in a dry, closed container.

SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Guidelines

A: General Product Information

This product is not regulated as a hazardous material. However, the manufacturer recognizes the potential for respiratory tract irritation and recommends an eight-hour exposure limit of 0.05 mg/m³.

B: Component Exposure Limits

No information available.

Engineering Controls

Provide local exhaust ventilation to maintain worker exposure to less than 0.05 mg/m³ over an eight-hour period.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipments: Eyes/Face

Wear safety glasses with side shields or goggles.

Personal Protective Equipments: Skin

Use impervious gloves when handling the product in the manufacturing environment.

Personal Protective Equipments: Respiratory

Wear respirator with a high efficiency filter if particulate concentration in the work area exceeds 0.05 mg/m³ over an eight hour time period.

Personal Protective Equipments: General

Obey reasonable safety precautions and practice good housekeeping. Wash thoroughly after handling.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	White Granular Powder, no odor
pH	5.5 – 6.5 (1% in water)
Specific Gravity (Bulk Density)	0.4 – 0.7 g/ml
Vapor Pressure	< 10 mm Hg
Vapor Density	NE
Melting Point	> 390 °F
Freezing Point	NA
Boiling Point	NA
Solubility in Water	Insoluble
Evaporation Rate (%)	< 1.0

SECTION 10– STABILITY AND REACTIVITY

Chemical Stability
This material is chemically stable under normal and anticipated storage and handling conditions.
Chemical Stability: Conditions to Avoid
None
Incompatibility
None
Hazardous Decomposition Products
Decomposition above 200 °C
Hazardous Polymerization
Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity
A: General Product Information:
Acute inhalation of respirable dust may cause irritation of the upper respiratory tract and lungs.
B: Acute Toxicity – LD_{50}/LC_{50}

Acute oral toxicity:	LD_{50} rat Dose: > 5000 mg/kg Method: Limit Test
Acute dermal toxicity:	LD_{50} rat Dose: > 2000 mg/kg Method: Limit Test
Skin irritation:	Rabbit Method: OECD Nr. 404 Very slight irritant
Eye irritation:	Rabbit Method: OECD Nr. 405 Very slight irritant
Sensitization:	Guinea pig Method: OECD Nr. 406 Result: 0/20 No sensitization

Carcinogenicity:
Component Carcinogenicity
No information is available.
Chronic Toxicity
Chronic inhalation exposure to rates for a lifetime (two years) using sodium polyacrylate that had been micronized to a respirable particle size (less than 10 microns) produced non-specific inflammation and chronic lung injury at 0.2 mg/m³ and 0.8 mg/m³. Also, at 0.8 mg/m³, tumors were seen in some test animals. In the absence of chronic inflammation, tumors are not expected. There were no adverse effects detected at 0.05 mg/m³.
Mutagenicity
Sodium polyacrylate had no effect in mutagenicity tests.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity

A: General Product Information

Composted polyacrylate absorbents are non-toxic to aquatic or terrestrial organisms at predicted exposure levels.

B: Ecotoxicity

Biodegradability:	Method: OECD Nr. 302B Practically no degradation.
Physico-chemical removability:	The product is easy to eliminate in water-treatment plants due to its insolubility.
Ciliate toxicity:	*Tetrahymenda pyriformis* EC_{50} > 6000 mg/. Method: Erlanger Ciliate Tests (Prof Graf)
Bacterial toxicity:	*Ps. Putida* EC_{50} > 6000 mg/l 24 hr exposure
Fish toxicity:	*Leuciscus idus* LC_{50} > 5,500 m/l 24 hr. exposure
Fish toxicity:	*Brachydanio rerio* LC_{50} > 4,000 mg/l 96 hour exposure

Environmental Fate

Polyacrylate absorbents are relatively inert in aerobic and anaerobic conditions. They are immobile in landfills and soil systems (> 90% retention), with the mobile fraction showing biodegradability. They are also compatible with incineration of municipal solid waste. Incidental down-the-drain disposal of small quantities of polyacrylic absorbents will not affect the performance of wastewater treatment systems.

SECTION 13 – DISPOSAL CONSIDERATIONS

US EPA Waste Number & Descriptions

A: General Product Information

This product is a non-hazardous waste material suitable for approved sold waste landfills.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Dispose of in accordance with Local, State, and Federal Regulations.

SECTION 14 – TRANSPORTATION INFORMATION

International Transportation Regulations

This product is not transport regulated.

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SECTION 15 –REGULATORY INFORMATION

US Federal Regulations

A: General Product Information

This product is not federally regulated as a hazardous material.

B: Clean Air Act

No information is available.

C: Component Analysis

No information available.

State Regulations

A: General Product Information

This product is not regulated by any state as a hazardous material.

B. Component Analysis – State

None of this product's components are listed on the state lists from CA, FL, MA, NJ, or PA.

Component Analysis – WHMIS IDL

No components are listed in the WHMIS IDL.

Component Analysis – Inventory

Component	CAS #	TSCA	CAN	EEC
Sodium Polyacrylate	9003-04-7	Yes	DSL	No

SECTION 16 – OTHER INFORMATION

Revision Information:

Revision Date: 1 November 2006
Supercedes Revision Dated: 23 March 2005

Reason for Revision: Update Section 1 with new Emerging Technologies address. Review and update all sections.

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

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UENO FINE CHEMICALS INDUSTRY,LTD. *Date first issue: Oct.18, 2006*

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name : UENO METHYL PARABEN NF
Product code : MOB-TP
Supplier : Ueno Fine Chemicals Industry, Ltd.
2-4-8 Koraibashi, Chuo-Ku, Osaka 541-8543, Japan
Emergency Telephone : +81-6-6203-6192

2. HAZARD IDENTIFICATION

Physical/chemical hazards: Dust in confined conditions can be dangerous and may cause fire or explosion.
Environmental hazards : Information not available
Human health hazards : Slightly irritating to eyes and skin.
Slightly cause coughing if inhaled.
None-hazardous in terms of international regulation.

3 .COMPOSITION/INFORMATION ON INGREDIENTS

Substance : Methyl p-Hydroxybenzoate 99.0% min.

Chemical Name	CAS Number	EC Number	Symbol	R-Phrases
Methyl p-Hydroxybenzoate	99-76-3	202-785-7	-	-

4. FIRST AID MEASURES

Effects and symptoms

Ingestion : Numbed tongue. May cause vomiting if ingested large amount.
Inhalation : Irritating to nose and throat. May cause coughing and nausea.
Skin contact : Dust and long or repeated contact may irritate and cause sensitization.
Eye contact : May cause irritation.

First aid measures

Ingestion : Give a plenty of water and call medical care. If fallen unconscious or convulsion, get medical attention immediately.

Inhalation : Remove to fresh air. Call a physician.

Skin contact : Wash thoroughly with soap and rinse with plenty of water.

Eye contact : Directly flush with water and call an oculist.

5. FIRE FIGHTING MEASURES

Suitable : Powder fire extinguisher, CO2 foaming fire extinguisher, water. Extinguishing media appropriate to surrounding materials.

Not suitable : None in particular

Special fire-fighting procedures : None in particular

Unusual fire-explosion hazards : None in particular

Hazardous thermal(de)composition products : May evolve irritating or poisonous fumes.

Protection of fire-fighters : Fire protectors, gas mask, heat resistant gloves

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions : Avoid inhalation and direct contact with skin and eye.

Environmental Precautions : Prevent entry into drains. Avoid creating dust.

Methods of Cleaning Up : Sweep up and put in seal tight container and incinerate. Flush away residues with water.

7. HANDLING AND STORAGE

Handling : Wear protectors to avoid dust inhalation and direct contact with skin and eyes.

Storage : To be stored under cool, dry and dark condition. Take precautionary measures against static discharges.

Packing Materials

Suitable :

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures : Mechanical extraction if the natural ventilation is poor.
Hygienic Measures : None in particular

Occupational Exposure Limits: No occupational exposure limit is established by OSHA, ACGIH or NIOSH.

Personal protective equipment

Respiratory system	: Dust respirator
Skin and body	: Arm protectors, Apron
Hands	: Rubber gloves
Eyes	: Goggles

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	: Crystalline powder
Color	: White
Odor	: Odorless or faint characteristic odor
Boiling Point	: 270 - 280 deg. c.
Melting Point	: 125 - 128 deg. c.
pH	: 4.3
Solubility in Water	: 0.25 gm / 100 gm at 25 deg. c.
Vapor Density(Air=1)	: data not available
Flash Point	: 168 deg. c.
Autoignition Temperature	: higher than 600 deg. c.
Lower Explosion Limit	: 15 mg / l
Upper Explosion Limit	: data not available

10. STABILITY AND REACTIVITY

Stability	: Stable in ambient conditions.
Conditions to avoid	: Direct sunbeams, High humidity and water
Materials to avoid	: Alkaline substances, Strong oxidizers

Hazardous Decomposition Products : If involved in a fire, fumes with COB_{2B}, CO or Phenol may be evolved.

11. TOXICOLOGICAL INFORMATION

Acute toxicity -

Oral : LD50 >8000 mg/kg(mouse)P [1)P]

I.P. : LD50 960 mg/kg(mouse)P [1)P]

Inhalation : No significant toxic effect reported.

Eye irritation : Saturated aqueous solutions may cause moderate irritation.

Chronic toxicity : No adverse effect recognized on dogs that were fed 0.5 gm and 1.0 gm per 1 kg body weight for one year.P [1)P]

Feeds containing 2% and 8% Methylparaben had been given to two groups of rats for 96 weeks. There was no significant difference recognized in pathological tests between the two groups of the rats which were given the feeds with 2% and 8% Methylparaben except for the delay of increase of body weight on the rats in the group which had been given the feed with 8% Methylparaben.P [1)P]

Sensitization : Long term or repeated contact may cause sensitization.

There was no sensitization found on human skin on which the gauze soaked with 5% solution of Methylparaben in Propylene Glycol had been applied for 5 days.P [1)P]

Carcinogenicity : No carcinogenicity found on mouse which had been applied Methylparaben twice a week for 18 months in the vagina.P [2)P]

12. ECOLOGICAL INFORMATION

Ecotoxicity : Information not available

13. DISPOSAL CONSIDERATIONS

Method of disposal : Dissolve in flammable solvent and burn out in incinerator.

14. TRANSPORTATION INFORMATION

UN number : Not classified by UN.
Land-Road/Railway
ADR/RID Class : n/a
ADR/RIF Item Number : n/a
Inland Waterways
ADNR Class : n/a
Sea
IMDG Class : n/a
IMDG Page Number : n/a
Air
IATA-DGR Class : n/a
National transport Regulations : n/a

15. REGULATORY INFORMATION

EC Regulations
EC Classification : n/a

Label Name : n/a
Hazard Symbols : n/a

Risk Phrases
R : n/a
Safety Phrases
S : S46 If swallowed, seek medical advice immediately and show this container or label.

National regulations : n/a

16. OTHER INFORMATION

1) C. Matthews, J. Davidson, E. Bauer, J. Morrison and A. Richardson. "p-Hydroxybenzoic acid esters as preservatives II Acute and chronic toxicity in dog , rats, and mice", J. Am. Pharm. Assoc. Sci. Ed. , 45:260-267(1956)
2) E. Boyland, R. Charles, and N. Gowing. "The induction of tumours in mice through intervaginal application of chemical compounds", Br. J. Cancer, 15:252-256(1961)

History

Date first issue : Oct. 18, 2006
Revision date :
Revision : Rev. 0

SDS prepared by : S. Ito, Deputy General Manager, Quality Assurance Department
Ueno Fine Chemicals Industry, Ltd.

Descriptions above are made up on the basis of the data and information currently available, and they may be revised at any moment in accordance with new knowledge, observations and examinations. However, we make no warranty, expressed or implied, as to composition, physical and chemical properties, hazards and toxicity data described above. Instructions and remarks made above are provided with a view to ordinary use and handling of the substance, whereas in the case of special handling of the substance, appropriate safety measures should be taken that suit the special application and usage.

American International Chemical, Inc.

Corporate Offices: (800) 238-0001
Internet: www.aicma.com *Email:* info@aicma.com

MATERIAL SAFETY DATA SHEET

SODIUM BENZOATE

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

American International Chemical, Inc.	**Emergency Number: Chemtrec**	**800-424-9300**
135 Newbury Street		**703-527-3887**
Framingham, MA 01701	**Information Number:**	**800-238-0001**

Date: January 4, 1996

Synonyms: Benzoate of Soda

CAS #: 532-32-1

DOT Hazard Class: Not Regulated

SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

Sodium Benzoate 99.5% min.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Odorless, white powder and granules. It has little or no known hazards.

POTENTIAL HEALTH EFFECTS:
Eyes and Skin: May cause irritation.
Inhalation: May cause irritation to the upper respiratory tract
Ingestion: No hazard in normal industrial use.

CARCINOGENICITY: Not listed under OSHA, IARC, or NTP.

SECTION 4 - FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for 15 minutes.
Skin: Wash off with soap and water.
Inhalation: Remove to the fresh air.
Ingestion: Wash out mouth, then dilute by drinking several glasses of water.
With All Of The Above: Consult a physician if symptoms persist.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not Flammable

Flammable Limits: Not Applicable

Extinguishing Media: Use media that is appropriate to treat surrounding fire.

Special Fire Fighting Procedures: Use fire fighting procedure that is appropriate to treat surrounding fire.

Unusual Fire Explosion Hazard: Concentrated dust may be an explosive hazard.

Auto Ignition Temperature: Not Applicable

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Isolate hazard area and deny entry to unnecessary or unprotected personnel.
Contain spill, sweep up, collect and place in a disposal container. Avoid runoff into storm sewers and ditches which lead to waterways.

SECTION 7 - HANDLING AND STORAGE

Avoid contact with skin, eyes and clothing. Avoid breathing dust. Use normal personal hygiene and housekeeping. Store in cool dry area away from other incompatible materials. Product is slightly hydroscopic and should be stored in a dry area to prevent moisture pick up and caking.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved respirators.

VENTILATION REQUIREMENTS: Ventilate as necessary to eliminate dust from the work area.

SKIN AND EYE PROTECTION:
Use rubber or neoprene gloves, chemical goggles and clothing sufficient to protect skin from dust.

WORK, HYGIENIC PRACTICES:
As required to protect skin and eyes from dust, safety showers and/or eye wash should be available. Do not leave food or smoke in work area. Wash thoroughly and remove or clean any contaminated clothing.

EXPOSURE LIMITS: None Established

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Applicable

Vapor Pressure (MM Hg): Not Applicable

Vapor Density (AIR=1): Not Applicable

Specific Gravity (H20=1): Not Applicable

Bulk Density: Not Available

Percent Volatile by Volume (%): Not Applicable

Melting Point: Not Applicable

Evaporation Rate (Butyl Acetate=1): Not Applicable

Solubility in Water: Appreciable, 55g/100g @ 20°C

pH: Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal temperatures and pressures.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Monoxide and other toxic fumes.

KEEP AWAY FROM: Strong acids and oxidizers.

SECTION 11 - TOXICOLOGICAL INFORMATION

Not Available

SECTION 12 - ECOLOGICAL INFORMATION

Not available

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in accordance with all federal, state and local regulations.

RCRA WASTE #: Not Listed

SECTION 14 - TRANSPORTATION INFORMATION

D.O.T. SHIPPING NAME:.....Sodium Benzoate Not Regulated

SECTION 15 - REGULATORY INFORMATION

TSCA (TOXIC SUBSTANCE CONTROL ACT):
This product is listed on the TSCA Inventory.

CERCLA REPORTABLE REQUIREMENTS: (RQ) None

SARA TITLE III INFORMATION:

Section 302 Extremely hazardous Substance: Unlisted

Section 313 Toxic Chemicals: Unlisted

Section 311/312 Hazard Category: Not Considered a Hazard.

SECTION 16 - OTHER INFORMATION

Reason for Issue: New Form

This information is given without any warranty or representation. It is believed to be correct but does not claim to be all inclusive and shall be used only as a guide. American International Chemical, Inc., shall not be held liable for any damage resulting from handling or contact with the above product. It is offered solely for your consideration, investigation and verification.