Chronic or Delayed Long-Term	This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects.
Medical Conditions Aggravated by Exposure	Individuals with allergic history or pre-existing dermatitis should use extra care in handling this product.
Potential Environmental Effect	Toxic to fish.

SECTION 4. FIRST AID MEASURES

General	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Skin	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Notes to Physician	
Signs and Symptoms	Ingestion may provoke the following symptoms: Nausea Vomiting breathing difficulties More severe effects if alcohol is consumed.
Treatment	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	> 93.4 °C / > 200.1 °F
Fire and Explosion Hazards	Dangerous gases are evolved in the event of a fire.

Suitable Extinguishing Media	Foam, Carbon dioxide (CO2), Dry chemical, Water spray
Fire Fighting Instructions	Keep out of smoke. Fight fire from upwind position. Cool closed containers/ tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for Cleaning Up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional Advice	Use personal protective equipment.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.
Storing Procedures	Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.
Work/Hygienic Procedures	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.
Min/Max Storage Temperatures	Do not transport or store below 0 °C / 32 °F Do not transport or store above 49 °C / 120 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection	Follow all label instructions. Train employees in safe use of the product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

Eye/Face Protection Tightly fitting safety goggles

Hand Protection Chemical resistant nitrile rubber gloves

Body Protection Wear long-sleeved shirt and long pants and shoes plus socks.

Respiratory Protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Exposure Limits

Thiram	137-26-8	ACGIH	TWA	1 mg/m3
		NIOSH	REL	5 mg/m3
		OSHA Z1	PEL	5 mg/m3
		OSHA Z1A	TWA	5 mg/m3
		US CA OEL	TWA PEL	5 mg/m3
		ACGIH NIC	TWA	0.05 mg/m3
		Form of exposure		Inhalable fraction and vapor
1,2-Propanediol	57-55-6	WEEL	TWA	10 mg/m3
		Form of exposure		Aerosol.
Urea	57-13-6	WEEL	TWA	10 mg/m3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance light cream

Physical State liquid

pH 6.5 - 7.5 (undiluted)

Density approx. 1.14 g/cm^3 at 20 °C

Bulk Density 9-10 lb./gal.

Melting / Freezing Point -9.4 - -6.7 °C / 15.1 - 19.9 °F

Water solubility miscible

Viscosity 600 - 1,000 mPa.s

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid	Heat, flames and sparks. Freezing
Incompatibility	Copper Oxidizing agents Strong acids
Hazardous Decomposition Products	Thermal decomposition can lead to release of: Sulphur oxides carbon disulphide hydrogen sulfide nitrogen oxides (NOx)
Hazardous Reactions	Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredient, thiram.

Acute Oral Toxicity	male/female combined rat: LD50: 3,580 mg/kg
Acute Dermal Toxicity	rat: LD50: > 4,000 mg/kg
Acute Inhalation Toxicity	male/female combined rat: LC50: > 2.6 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. male/female combined rat: LC50: > 10.4 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
Skin Irritation	rabbit: Slight irritation.
Eye Irritation	rabbit: Slight irritation.
Sensitization	May cause sensitization by skin contact.
Chronic Toxicity	Thiram targeted the liver, blood and urinary system in chronic toxicity studies in laboratory animals.

Assessment Carcinogenicity

Thiram did not demonstrate any biologically significant evidence of carcinogenic potential in rats and mice. EPA has classified thiram as "not likely to be carcinogenic to humans."

ACGIH

Thiram	137-26-8	Group A4

NTP
None.
IARC

Thiram	137-26-8	Overall evaluation: 3
Thiram	137-26-8	Overall evaluation: 3

OSHA
None.

Reproductive & Developmental Toxicity

REPRODUCTION: Thiram was not a reproductive toxicant in multi-generation reproduction studies in rats.

DEVELOPMENTAL TOXICITY: Thiram is a developmental toxicant.

Neurotoxicity

Thiram caused neurotoxic effects (e.g. lethargy, reduced activity) in laboratory animals.

Mutagenicity

Thiram was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Apply this product as specified on the label.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Open dumping is prohibited.

Container Disposal

Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke.

RCRA Classification

The RCRA Classifications may be on the individual component(s) and not necessarily on the product as a whole.

137-26-8 Thiram
US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261): U244

137-26-8 Thiram

US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U244

SECTION 14. TRANSPORT INFORMATION

TRANSPORTATION CLASSIFICATION:
RQ, Environmentally Hazardous Substances, Liquid, N.O.S.(Thiram) // 9 // UN3082 // PG III

IMDG CLASSIFICATION:
RQ, Environmentally Hazardous Substances, Liquid, N.O.S.(Thiram) // 9 // UN3082 // PG III // Marine Pollutant

FREIGHT CLASSIFICATION:
Insecticides or Fungicides, N.O.I.; other than poison

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 264-929

US Federal Regulations

TSCA list

Thiram	137-26-8
1,2-Propanediol	57-55-6

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
None.

SARA Title III - Section 302 - Notification and Information
None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Thiram	137-26-8	1.0%

US States Regulatory Reporting

CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Thiram	137-26-8	CA, CT, IL, MN, NJ, PA, RI
1,2-Propanediol	57-55-6	MN, RI

Canadian Regulations

Canadian Domestic Substance List

Thiram	137-26-8
1,2-Propanediol	57-55-6

Environmental

CERCLA

Thiram	137-26-8	10 lbs

Clean Water Section 307 Priority Pollutants
None.

Safe Drinking Water Act Maximum Contaminant Levels
None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

Thiram	137-26-8
1,2-Propanediol	57-55-6

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
Health - 2 Flammability - 1 Reactivity - 1 Others - none
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated Section 11: Toxicological Information.

Revision Date: 06/18/2007

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.

MATERIAL SAFETY DATA SHEET

Syngenta Crop Protection, Inc.
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: **APRON XL LS** Product No.: A9382A

EPA Signal Word: Warning

Active Ingredient(%): Mefenoxam (33.3%) CAS No.: 70630-17-0 & 69516-34-3

Chemical Name: (R,S)-2-[(2,6-dimethylphenyl)-methoxyacetylamino]-propionic acid methyl ester

Chemical Class: Phenylamide Fungicide

EPA Registration Number(s): 100-799 **Section(s) Revised: 8**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Mefenoxam (33.3%)	Not Established	Not Established	Not Established	No

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: B, S

3. HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

May be irritating to eyes, skin and respiratory tract.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Amber liquid

Odor: Light oily/petroleum

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method):	> 200°F	
Flammable Limits (% in Air):	Lower: % Not Applicable	Upper: % Not Applicable
Autoignition Temperature:	Not Available	
Flammability:	Not Applicable	

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

Inhalation: A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber liquid
Odor:	Light oily/petroleum
Melting Point:	Not Applicable
Boiling Point:	Not Available
Specific Gravity/Density:	1.11 g/ml
pH:	5 - 7 (1% suspension in water)

Solubility in H2O

Mefenoxam: 26 g/l @ 77°F (25°C)

Vapor Pressure

Mefenoxam: 2.5 x 10(-5) mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	None known.
Materials to Avoid:	None known.
Hazardous Decomposition Products:	Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	Slightly Toxic	
	Oral (LD50 Rat) :	862 mg/kg body weight
Dermal:	Slightly Toxic	
	Dermal (LD50 Rabbit) :	> 2,020 mg/kg body weight
Inhalation:	Slightly Toxic	
	Inhalation (LC50 Rat) :	2.52 mg/l air - 4 hours
Eye Contact:	Moderately Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Mefenoxam: None observed.

Chronic/Subchronic Toxicity Studies

Mefenoxam: Liver effects at high dose levels.

Carcinogenicity

Mefenoxam: None observed.

Other Toxicity Information

None

Toxicity of Other Components

Not Applicable

Target Organs

Active Ingredients

Mefenoxam: Liver

Inert Ingredients
: Not Applicable

12. ECOLOGICAL INFORMATION

Summary of Effects

Mefenoxam:

Practically non-toxic to aquatic organisms and wildlife.

Eco-Acute Toxicity

Mefenoxam: Bees LC50/EC50 > 25 ug/bee
Invertebrates (Water Flea) LC50/EC50 > 113 ppm
Fish (Trout) LC50/EC50 > 121 ppm
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 5,620 ppm

Eco-Chronic Toxicity

Mefenoxam: Not Available

Environmental Fate

Mefenoxam:

The information presented here is for the active ingredient, mefenoxam.
Does not bioaccumulate. Not persistent in soil or water. Moderate mobility in soil. Mixes/sinks (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated.

B/L Freight Classification

Fungicides, NOIBN, o/t poison

Comments

None.

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Not Applicable

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

DIAMOND K

The *Natural* Sulfate of Potash Producer

MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT IDENTIFICATION

Product Name: ..... Sulfate of Potash
Trade Name and Synonyms: ..... SOP, Arcanite, K_2O crop nutrient
Formula: ..... K_2SO_4
CAS Number: 7778-80-5
Manufacturer's Name: ..... Great Salt Lake Minerals Corporation
Address: ..... 765 North 10500 West, Ogden, Utah 84404
Phone: 801-731-3100
Issue Date: ..... November 30, 2001

SECTION II: HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

N/A

SECTION III: PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: ..... White crystals or brown granular
Melting Point: ..... 1952°F
Specific Gravity (H_2O=1): 2.66
Solubility: ..... Soluble in water (1 pound per gallon at 77°F)
Insoluble in alcohol
Volatile by Volume (%): ..... N/A

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media: ..... N/A
Special Fire Fighting Procedures: ..... N/A
Unusual Fire and Explosion Hazards: ..... N/A
National Fire Protection Association (NFPA) Classification:
4 = Severe, 3 = Serious, 2 = Moderate, 1 = Slight, 0 = Minimal
Health (Blue) 1
Flammability (Red) 0
Reactivity (Yellow) 0

SECTION V: REACTIVITY DATA

Stability: ..... Stable
Incompatibility (Materials to avoid): ..... N/A
Hazardous Decomposition or Byproducts: ... SOx at temperatures above 1952°F

CONTINUED

SECTION VI: HEALTH HAZARD DATA

Health Hazards: ..... Similar to sodium chloride (table salt)
Carcinogenicity: ..... N/A
Signs and Symptoms of Exposure: ..... Ingestion: Large doses may cause GI discomfort.
Skin: May cause irritation.
Eyes: May cause irritation.
Inhalation: May cause irritation.
Emergency and First Aid Procedures: ..... Ingestion: Consult physician.
Skin: Flush with water.
Eyes: Irrigate with water.
Inhalation: Remove to fresh air.

SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storage Precautions: ..... As with similar powdered materials Sulfate Of Potash should be handled in a manner that prevents personal contact with the skin and eyes. Wash hands after handling.
Other Precautions: ..... Not for food or drug use.
Steps to be Taken if Spilled: ..... Collect and reuse material. Sulfate of potash is a non-hazardous waste when spilled or disposed of, as defined by RCRA regulations (40 CFR 261).

SECTION VIII: CONTROL MEASURES

Ventilation: ..... Ventilate when working in a confined area or when using large quantities of this material.
Respiratory Protection: ..... Dust mask.
Eye Protection: ..... Safety glasses with side shields recommended for all activities involving material handling.

SECTION IX: SUPPLIER NOTIFICATION

Name: ..... Sulfate of Potash
Hazard Label: ..... No special requirements.
Transportation Guidelines: ..... No special requirements.

SECTION X: CANADIAN REGULATIONS

WHMIS Information: ..... The Canadian Workplace Hazardous Materials Information System Classification defines Sulfate Of Potash as Not A Controlled Product.
TDG Information: ..... For guidance, the Canadian Transportation of Dangerous Goods Classification for Sulfate Of Potash is Not Regulated.

Judgments as to the suitability of information herein for purchaser's purposes are the purchaser's responsibility. Although reasonable care has been taken in the preparation of such information, the manufacturer extends no warranties, makes no representation, and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.

SunChemical®
Performance Pigments™

Material Safety Data Sheet

1. Product and company identification

Product code : RCD9000

Trade name : C Series Red 48:2

Manufacturer : Sun Chemical Corporation
5020 Spring Grove Avenue
Cincinnati, OH 45232-1999
Cincinnati - US +1 (513) 681-5950

2. Hazards identification

Physical state : Liquid.

Color : Red

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview : WARNING !

CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY REACTION.

Irritating to eyes and skin. May cause sensitization by inhalation. Do not breathe vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Eyes : Irritating to eyes.

Skin : Irritating to skin.

Inhalation : May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure : Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	%
Proprietary Ingredient: TSRN 00195201005-5100P		5-10

4. First aid measures

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation : Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Ingestion : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6 . Accidental release measures

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Red

10 . Stability and reactivity

Stability and reactivity : The product is stable.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

12 . Ecological information

Environmental precautions : No known significant effects or critical hazards.

Products of degradation : Products of degradation: carbon oxides (CO, CO_2) and water, nitrogen oxides (NO, NO_2 etc.), sulfur oxides (SO_2, SO_3 etc.), halogenated compounds. Some metallic oxides.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-

PG* : Packing group

15 . Regulatory information

HCS Classification : Irritating material
Sensitizing material

TSCA 8(b) Inventory : Listed

U.S. Federal regulations : TSCA 8(a) PAIR: Dimethylpolysiloxane; Polydimethylsiloxane/Silica Adduct; Octamethylcyclotetrasiloxane; Decamethylcyclopentasiloxane; Dodecamethylcyclohexasiloxane
United States Inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Propylene Glycol; Clay
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Propylene Glycol: Immediate (acute) health hazard, Delayed (chronic) health hazard; Proprietary Ingredient: TSRN 00195201005-5100P: Immediate (acute) health hazard; Clay: Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: Sodium Hydroxide

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations : **Connecticut Carcinogen Reporting**: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: None of the components are listed.
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: None of the components are listed.
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: KAOLIN;1,2-PROPANEDIOL
Rhode Island Hazardous Substances: None of the components are listed.

EU regulations

Risk phrases : This product is not classified according to EU legislation.

International lists

15 . Regulatory information

International lists : **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): Not determined.
Korea inventory (KECI): Not determined.
Philippines inventory (PICCS): Not determined.
Japan inventory (ENCS): Not determined.
Canada inventory: All components are listed or exempted.
Europe inventory: All components are listed or exempted.

New Zealand Inventory (HASNO) : Not listed.

16 . Other information

Label requirements : CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY REACTION.

Hazardous Material Information System (U.S.A.) :

Health	*	2
Fire hazard		1
Reactivity		0

National Fire Protection Association (U.S.A.) :

Date of printing : **27- September- 2007**
Version : **0.01**
Information contact : ProductSafety@Sunchemical.com

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SunChemical

Colors Group
Sun Chemical Corporation
3935 Bach-Buxton
Xenia, OH 45385
513-753-0550
513-753-8375 Fax

MATERIAL TECHNICAL DATA SHEET

CODE	RCD-9000	PIGMENT TYPE	CALCIUM RED 2B PIGMENT RED 48:2
NAME	C SERIES	DISPERSION TYPE	SURFACTANT

TYPICAL CERTIFICATE OF ANALYSIS PROPERTIES

CIE LAB DL	-1.00 -- 1.00
CIE LAB Da	-1.00 -- 1.00
CIE LAB Db	-1.00 -- 1.00
CIE LAB DE	0.00 -- 1.50
TINT STRENGTH	97.00 -- 103.00
pH	7.0 -- 9.0
VISUAL INK PRINT	PASS/FAIL

OTHER PROPERTIES MAY BE ADDED PER CUSTOMER/VENDER REQUEST

NOMINAL PHYSICAL PROPERTIES

COLOR INDEX NUMBER	15865:2
PERCENT SOLIDS	47 % (+/-2%)
PERCENT PIGMENT	24 % (+/-2%)
SPECIFIC GRAVITY	1.08 -- 1.20

ALTHOUGH THE ABOVE DATA IS ACCURATE TO THE BEST OF SUN CHEMICAL CORPORATION'S KNOWLEDGE, IT IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED. SUN CHEMICAL CORPORATION DOES NOT ASSUME ANY LEGAL RESPONSIBILITY FOR THE USE OF THIS PRODUCT AND THIS PRODUCT IS PURCHASED AT BUYER'S RISK.

REVISION STATUS 1-051802

AUTHORIZER _____

Melissa Armer

From: Wenker, Jim [Jim.Wenker@sunchemical.com]
Sent: Tuesday, December 11, 2007 9:57 AM
To: marmer@jbrenv.com
Cc: Gillespie, Sandy
Subject: RCD-9000

Dear Ms. Armer -

Please find below the ingredient compositional breakdown for our aqueous dispersion RCD-9000. It is a mixture of several ingredients, some of which are considered to be proprietary.

kind regards,
Jim Wenker

RCD-9000

PIGMENT RED 48:2 7023-61-2 25%
Clay 1332-58-7 14%
Propylene glycol 57-55-6 9%
Proprietary Surfactant CBI 9%
Water balance

This message may contain confidential, proprietary or legally privileged information and is intended only for the use of the addressee named above. No confidentiality or privilege is waived or lost by any error in transmission. If you are not the intended recipient of this message you are hereby notified that you must not use, disseminate, copy it in any form or take any action in reliance on it.

Notice for all correspondence to or from a UK based Sun Chemical company:
Sun Chemical Europe and Ault&Wiborg are trading divisions of Sun Chemical Limited,
Registered in England No. 2647054
Registered Office: 3 High View Road, South Normanton, Derbyshire, DE55 2DT, UK
VAT Registration Number: GB216018402

MATERIAL SAFETY DATA SHEET

I. GENERAL INFORMATION

Identity: Bolster from Sustâne Plant Growth Supplement Date *Revised*: 2/03

Contains 2% enriched seaweed (*Ascophylum nodosum*) extract, and 4% humic acid from leonardite.

Manufactured for: Natural Fertilizer of America, Inc.
310 Holiday Avenue
P.O. Box 19
Cannon Falls, MN 55009

Phone #: 507/263-3003
Emergency Phone #: 800-352-9245

II. HAZARDOUS INGREDIENTS

N/A

III. PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: ND
Vapor Pressure: N/A
Vapor Density: N/A Water Vapor only
Solubility in Water: 100%
Appearance and Odor: Dark brown viscous liquid with slight odor

Specific Gravity: 1.27
Melting Point: N/A
Evaporation Rate: N/A
pH: Lightly alkaline

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A *Flammable Limits*: N/A *Extinguishing Media*: N/A
Special Fire Fighting Procedures: N/A *Unusual Fire and Explosion Hazards:* None Known

V. REACTIVITY DATA

Stability: Stable in normal usage and storage
Incompatibility (Materials to Avoid): None Known, but should check before tank mixing.
Hazardous Decomposition or Byproducts: None Known *Hazardous Polymerization:* Will Not Occur

VI. HEALTH HAZARD DATA

Route(s) of Entry: *Inhalation:* See Below *Skin:* See Below *Ingestion:* See Below
Health Hazards (Acute and Chronic): None Known
Carcinogenicity: *NTP* *IARC Monographs* *OSHA Regulated* None Known
Signs and Symptoms of Exposure: Mist inhalation may irritate nose, throat and lungs. May irritate skin and eyes. Low toxicity.
Medical Conditions Generally Aggravated by Exposure: None Known
Emergency and First Aid Procedures: If ingested dilute with 2-3 glasses of water or milk and induce vomiting. Eye contact – flush with water for at least 15 minutes. Inhalation – remove to fresh air. Seek medical attention for irritation or ingestion.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material is Released or Spilled: Use absorbent material to clean up spill.
Waste Disposal Method: Dispose of in accordance with applicable local, state and federal regulations.
Precautions to Be Taken in Handling and Storing: Do not freeze or store in direct sunlight.
Other Precautions: Avoid contact with eyes, skin or clothing. Avoid breathing mist. Use good personal hygiene and housekeeping.

VIII. CONTROL MEASURES

Respiratory Protection: Use NIOSH approved respiratory protection if conditions warrant.
Ventilation: Natural ventilation is adequate *Protective Gloves:* Recommended *Eye Protection:* Recommended
Other Protective Clothing or Equipment: Long sleeves. *Work/Hygienic Practices:* N/A

OTHER PRECAUTIONS AND COMMENTS

The information in this Material Safety Data Sheet is believed to accurately reflect the scientific evidence used in making the hazard determination. It is considered only as a guide, and not a warranty or representation for which we assume legal responsibility. Independent decisions must be made on the suitability and use of this product dependent on variable storage conditions or locally applicable laws or government regulations. The buyer and user assumes all risk and liability of storage conditions or locally applicable laws or government relations. The buyer and user assumes all risk and liability of storage, handling, and use of this product not in accordance with the terms of the product label.

Material Safety Data Sheet

As of January 1, 2006

Trade Name

HORTA-SORB® LG, MD, SM

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Horticultural Alliance, Inc.
1550 66th Ave. Dr. E.
Sarasota, FL 34243
Tel: 800-628-6373, 941-739-9121
Fax: 888-386-4478, 941-752-1890
Web page: www.hortsorb.com

2. Composition / Info. on Ingredients

Cross linked
Acrylamide/Potassium Acrylate copolymer
CAS NUMBER
25085-02-3

3. HAZARDS IDENTIFICATION

The product, when wet, renders surfaces extremely slippery. The product swells in water.

4. FIRST AID MEASURES

Inhalation: No hazards which require special first aid procedures except for particle size below 50 micron in which case protective masks should be employed
Skin Contact: No hazards which require special first aid procedures.
Eye Contact: Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation occurs, consult a physician.
Ingestion: The product is not considered toxic based on studies on laboratory animals.

5. FIRE FIGHTING PROCEDURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry power.
Fire extinguishing agents to avoid: None
Special fire fighting precautions: The product, when wet, renders surfaces extremely slippery. The product swells in water.
Special protective equipment for firefighters: None

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Environmental precautions: Do not contaminate water.
Methods for cleaning up: Do not flush with water. Clean up promptly by scoop or vacuum. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling: Avoid direct contact with skin and eyes. Avoid dust formation. Do not breath dust. Wash hands before breaks and at the end of the workday.
Storage: Keep in a dry, cool place (0-35°C).

8. EXPOSURE CONTROLS

Engineering measures to reduce exposure: Use local exhaust if dusting occurs. Natural ventilation is adequate in absence of dusts.
Personal protection equipment
- **Respiratory protection:** Dust safety masks are recommended where concentration of total dust is more than 10 mg/m^3.
- **Eye protection**: Keep away from eyes. Wear safety glasses with side shields if dusts are present.
- **Skin and body protection**: No special protective clothing required.
- **Hygiene measures**: Wash hands before breaks and at the end of the workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Granular solid
Color: White
Odor: None
pH: Not applicable
Melting point (°C) Not applicable
Flash point (°C) Not applicable
Auto ignition temp. (°C) Not applicable
Vapor pressure (mm Hg) Not applicable
Bulk Density 0.7 to .085
Water solubility Insoluble

10. STABILITY AND REACTIVITY

Stability: Product is stable, no hazardous polymerization will occur.
Conditions to avoid: No special precautions required.
Materials to avoid: The product swells in water.
Hazardous decomposition products: Thermal decomposition may produce: hydrogen cyanide (hydrocyanic acid), nitrogen oxides (NOx), carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
- **Oral**: Not toxic: LD50/oral/rat > 5,000 mg/kg
- **Dermal**: Not toxic: LD50/dermal/rabbit > 2,000 mg/kg

Irritation
- **Skin**: Not irritating

- **Eyes**: Moderate eye irritation due to effects all powders have on conjunctivae.
Sensitization: Not sensitizing

12. ECOLOGICAL INFORMATION

Ecotoxicity: Ecological injuries are not known or expected under normal use. Aquatic toxicity is unlikely due to low solubility.
Persistence / degradability: Not readily biodegradable, < 10% after 28 days.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: In accordance with federal, state and local disposal or discharge regulations.
Contaminated packaging: Can be landfilled or incinerated, when in compliance with federal, state and local disposal or discharge regulations.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning transport regulations.

15. REGULATORY INFORMATION

The product is not a hazardous article and need not be labeled according to EC-=Directives as mentioned. All components of this product are on the TSCA and DSL iventories.
RCRA status:Not a hazardous waste
Hazardous waste number:Not applicable
Reportable quantity (40 CFR 302)Not applicable
Threshold planning quantity (40 CFR 335):Not applicable

16. OTHER INFORMATION

Person to Contact:

James Quinn, President
Horticultural Alliance, Inc.
1550 66th Avenue Drive E., Sarasota, FL 34277
Tel: 800-628-6373, 941-739-9121
Fax: 888-386-4478, 941-752-1890
E-Mail: jamesq@hortsorb.com
Webpage: www.hortsorb.com

Borregaard
LignoTech

Borregaard Deutschland GmbH
LignoTech Werk Karlsruhe
DEA- Scholven- Strasse 9
D-76187 Karlsruhe, Germany

Tel.: +49 721 55991-0
Fax.: +49 721 55991-10

Publ. No. LTD 8532853
Edition September 15, 2004
Borrechel Fe 853

Borrechel Fe 853

Product description

Borrechel Fe 853 is a spray dried iron micronutrient based on lignosulphonic acid from wood sulphite liquor as natural polymeric complexing agent.
Typical Application: Micronutrient for agriculture.
CAS- No. 8062-15-5 (Lignosulphonic acid), 7720-78-7 (Ferro sulphate)
Product is classified harmfull. Please note safety data sheet.

Specification

		Test Method
Dry matter [%]	min 93,0	A01
pH (10 % solution)	3,0 +/- 0,5	A04
Insolubles [%]	max 1,0	A46
Iron, Fe [%]	min 11,0	

Typical Analysis*

Chemical Data		Physical Data	
Organic matter [%]	60	Bulk density [kg/m3]	400
Sulphate, SO4 [%]	24		

*The above analyses are not formal specifications and values may change.
Chemical Data calculated on solids.

Storage Stability:

Borrechel Fe 853 is stable for several months if stored under dry conditions.

Compatibility:

Lignosulphonates are compatible with anionic and non- ionic materials, dispersants, wetting agents and most organic and inorganic materials.

Packaging:

20 kg bags

Lead Time:

6 weeks lead time is typical.

Safety Data Sheets are available upon request.

Please contact your LignoTech Sales Representative for additional product information.

The information given here is based on our best knowledge and we believe it to be true and accurate. However, Borregaard LignoTech does not warrant or guarantee in any manner whatsoever, including the warranty of merchant-ability or fitness for the end user the accuracy of the information and procedures listed herein and will not be responsible for any damage resulting from their use.

MATERIAL SAFETY DATA SHEET
PRODUCT NAME : BORRECHEL FE 853 POWDER

LIGNOTECH USA, INC.
Research & Development
100 Grand Avenue
Rothschild, WI
54474-1198
TEL: (715)359-6544
FAX: (715)355-3648

EMERGENCY PHONE (715)359-6544
*CHEMTREC PHONE (800)424-9300

>>NOT OSHA OR WHMIS HAZARDOUS<<

MSDS NO. : 101210
ORDER NO. :
PREPARED ON: 10/12/2000
REPLACES : All Previous

PREPARED BY: S. Lebo

*Use only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals.

I. PRODUCT IDENTIFICATION

Common Name	: Iron Lignosulfonate	Chemical Formula	: Amorphous Polymer
Synonyms	: See Above	Chemical Family	: Wood Chemicals
Manufacturer	: LignoTech USA, Inc.	CAS Numbers	: 62997-05-1
Shipping Name - DOT	: Lignin Pitch - Class 55		:
Hazard Class - DOT	: Not Restricted	UN Number	: Excluded
Hazard Class - IATA	: Not Restricted	Physical State	: Powder

HMIS Rating(0-4) : HEALTH = 1 FIRE = 1 REACTIVITY = 0 SPECIAL = 0

WARNING NUISANCE DUST – As with all dusts, avoid high concentrations.

II. HAZARDOUS INGREDIENTS

Principal Hazardous Components	Percent	Threshold Limit Value (units)
None known		

III. PHYSICAL DATA

Boiling Point (C)	: Not Applicable	Specific Gravity (25 C)	: Not Applicable
Freezing Point (C)	: Not Applicable	pH (3% Soln.)	: 4.5
Vapor Pressure (mm Hg)	: Not Applicable	Bulk Density (g/ml)	: 0.37 - 0.56
Vapor Density (Air = 1)	: Not Applicable	Solubility in Water	: 100% Soluble
% Volatiles By Weight	: 4.5 (water)	Evaporation Rate	: Not Applicable
Appearance & Odor	: Brown powder with slight odor.	Water/Oil Dist. Coeff.	: 100% in water
	:		:

IV. HEALTH HAZARD DATA

Threshold Limit Values : OSHA PELV = 15 mg/M3 for dust
: Minimize contact with eyes, skin, clothing. Tests to determine acute oral toxicity to
: rats produced no deaths from which an LD50 could be determined.

Carcinogen Listings - NTP / IARC : Not a carcinogen
Primary Route(s) of Entry : Skin contact, eye contact, inhalation
Symptoms of Overexposure : No effects of overexposure to lignosulfonates are known.
Conditions Aggravated by Exposure : None known.
Irritancy of Material : None known.
Sensitization to Material : None known.
Teratogenicity : None known.
Mutagenicity : None known.
Reproductive Toxicity : None known.
Synergistic Substances : None known.
First Aid – Eyes : Irrigate with potable water.
Skin : Skin should be flushed with clean water.
Inhalation: Remove from dusty area.
Ingestion : Give water to dilute and get medical attention.

Notes to Physician : Very low toxicity.

V. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used) : Not Applicable — Auto Ignition Temp: 400 C for dust
Flammable Limits in Air, % By Volume: Lower: 0.2 oz./cu.ft. — Upper: 3.5 oz./cu.ft.
Extinguishing Media : Use water spray, carbon dioxide, dry chemical, alcohol-type or universal-type foams applied by manufacturers recommended techniques.
Special Fire Fighting Procedures : Use supplied breathing air and protective clothing.
Unusual Fire and Explosion Hazards : Flammable solids may provide conditions for a dust explosion.

VI. SPILL OR LEAK PROCEDURES

Spill Response : Mechanically collect and remove spilled material. Area may be washed with water.
Neutralizing Chemicals : None required.
Waste Disposal Methods : Incinerate, bury or flush to sewer following applicable regulations.

VII. REACTIVITY DATA

Stability : Stable — Conditions to Avoid : Contact with strong oxidizing agents.
Incompatibility : — Materials to Avoid : None
Hazardous Polymerization : Will not occur — Conditions to Avoid : None
Hazardous Decomposition Products : Sulfur dioxide, carbon dioxide, and carbon monoxide.

VIII. CONTROL MEASURES

Ventilation Requirements : Adequate ventilation for comfort is recommended.
Respiratory Protection : Full respiratory protection program recommended.
: NIOSH approved dust mask recommended.
Protective Gloves : Gloves recommended for prolonged exposure.
Eye Protection : Goggles recommended for prolonged exposure.
Other Protective Equipment : Clothing which contacts skin should be changed daily.

IX. SPECIAL PRECAUTIONS

Repair/Maintenance of Contaminated Equipment : None required.
Hygiene in Handling and Storage : Personal hygiene is strongly encouraged so all clothing items are changed daily.
Other : Normal precautions common to good manufacturing practice should be followed.

X. ADDITIONAL REGULATORY CONCERNS

Lignosulfonates are non-toxic & non-irritating. Government regulations for use of lignosulfonates are summarized below:

Agriculture Canada Animal Feeds. File No. 832.282.
40 CFR 180.1001 Sections (c) & (e)
21 CFR 176.120; 176.170; 176.180; 178.3120 - Paper
21 CFR 173.310 - Boiler Water
21 CFR 172.715; 182.99 - Pesticides for Food
21 CFR 176.210 - Defoamers
21 CFR 177.1210 - Gaskets
21 CFR 175.105 - Adhesives
21 CFR 573.600 - Animal Feeds

The information and recommendations contained herein are offered as a service to our customers but are not intended to relieve the user from its responsibility to investigate and understand pertinent sources of information and to comply with all laws and procedures applicable to the safe handling and use of these materials. The information and recommendations provided herein were believed by LignoTech USA, Inc. to be accurate at the time of preparation or obtained from sources believed to be generally reliable. However, LignoTech USA, Inc. makes no warranty concerning their accuracy and LignoTech USA, Inc. will not be liable for claims relating to any party's use of or reliance on information or recommendations contained herein, regardless of whether it is claimed that the information or recommendations are inaccurate, incomplete or otherwise misleading.

OPTIMIZE® GOLD LCO PROMOTER TECHNOLOGY®

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT & COMPANY IDENTIFICATION

Material Names: **Optimize® Gold**

Designations: Liquid inoculant product containing live culture of nitrogen-fixing *Sinorhizobium bacteria* and *Lipo-chitooligosaccharide.*

Chemical Formula: Mixture

Manufacturer: EMD Crop BioScience
3101 W. Custer Ave., Milwaukee, WI 53209

Emergency Telephone: 414-462-7600
Monday-Friday, 8:00 am - 4:30 pm CST

After Hours: Call CHEMTREC at 1-800-424-9300

SECTION 2 INGREDIENT INFORMATION

Hazardous Ingredient:	CAS Number:	OSHA PEL:	ACGIH TLV:	ACGIH STEL:

Contains no hazardous ingredients

Contains naturally-occuring, non-pathogenic rhizobia bacteria. These are symbiotic nitrogen-fixing bacteria, to be applied as a seed treatment to specific legume crops (not a plant food product). See product label for specific crop information, application rates and methods. Not for food, feed or drug use.

SECTION 3 HAZARDS IDENTIFICATION

Emergency Overview: There are no known health effects caused by the rhizobia bacteria contained in this product.

Primary Entry Routes: Oral (swallowing)

Acute Effects (Signs and Symptoms of Overexposure):

Eyes: Liquid may cause minor eye irritation.

Skin: No known hazard.

Inhalation: No known hazard.

Ingestion: No known hazard.

Chronic Effects: No known hazard.

Medical Conditions Aggravated by Exposure: No known hazard.

Target Organs: None

Carcinogenicity: Contains no known or suspected carcinogens.

HMIS: Health – 0, Flammability – 0, Reactivity – 0

SECTION 4 FIRST AID MEASURES

Eyes: Flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.

Skin: Wash with soap and water.

Inhalation: Remove person to fresh air. Get medical attention if irritation persists.

Ingestion: No treatment necessary.

SECTION 5 FIRE FIGHTING MEASURES

NFPA

Flash Point: None

Autoignition Temp.: Not determined

Explosive Limits: LEL: Not applicable
UEL: Not applicable

Extinguishing Media: Use media suitable for the surrounding fire

Unusual Fire or Explosion Hazards: None known

Fire Fighting Instructions: No special requirements.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Large Spill/Leak Procedures: Contain spill and recover for use or disposal.

Small Spills: Spilled liquid may cause slippery residue on hard floors. Flush spill area with water to wash away any slippery residue.

SECTION 7 STORAGE AND HANDLING

Storage Requirements: Store in original container in a cool, dry place. Avoid repeated freeze/thaw cycles. Shake well before use. Open package only when ready to use. Use before expiration date printed on package.

Handling Precautions: No special handling requirements. Follow normal hygiene and housekeeping standards for agricultural products.

SECTION 8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

Ventilation: Special ventilation is not required for the normal handling and use of this product when following the label instructions.

Protective Clothing/Equipment: No special requirements.

Respirator: None required when used according to label instructions.

Contaminated Equipment: Clean application equipment with detergent and water after use.

Comments: Practice general personal hygiene after using this product. After handling any chemical or biological product, wash arms, hands and face with soap and water before eating, drinking or smoking.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquids	**Water Solubility:**	Soluble
Color:	Yellow to brown	**% Volatile (Volume):**	Not determined
Odor:	Mild	**Specific Gravity:**	1.0 g/cc
Melting Point:	Not determined	**Vapor Pressure:**	Not determined
Boiling Point:	216°F (102°C)	Vapor Density:	Not determined
Freezing Point:	25°F (-4°C)	**pH:**	6 to 8

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Polymerization: Will not occur

Chemical Incompatibilities: Some seed-applied chemicals, including fungicides, may be harmful to the bacteria in this product. See product label for futher information on the use of fungicides or other chemicals in conjuction with seed treatment.

Hazardous Products of Decomposition: Oxides of carbon

SECTION 11 TOXICOLOGICAL INFORMATION

Eye Effects/Eye Irritation:	Non-irritating
Acute Oral Effects:	LD_{50} (orl-rat): >5000 mg/kg
Acute Inhalation Effects:	No data available
Acute Dermal Effects:	LD_{50} (dml-rbt): >2000 mg/kg
Skin Irritation:	Non-irritating
Skin Sensitization:	Not a skin sensitizer

SECTION 12 ECOLOGICAL INFORMATION

This product contains non-pathogenic bacteria strains that occur naturally in soil, and is biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal: Small amounts of product which cannot be used according to label instructions may be disposed of in a landfill or sanitary sewer.

RCRA Waste Status: This product is not regulated as a hazardous waste. State and local regulation may affect the disposal of this product. Consult your state, local or provincial environmental agency for disposal of waste other than by use according to label instructions.

SECTION 14 TRANSPORT INFORMATION

Transportation Data: This product is not regulated as a hazardous material for all modes of transportation within the U.S. and Canada.

Hazard Class: Not applicable **ID No.:** Not applicable

SECTION 15 REGULATORY INFORMATION

TSCA: All components of this product are listed on the TSCA inventory.
SARA Section 313: Contains no reportable components.
OSHA Hazard Classification: Non-hazardous
Proposition 65: Contains no components subject to warning requirements.
WHMIS / Controlled Products Regulations: This product has been classified in accordance with the hazard criteria of the CPR and this MSDS contains all of the information required by the CPR.

SECTION 16 OTHER INFORMATION

Prepared by: D. Joers **Date:** 14 August 2007

Information presented on this Material Safety Data Sheet is believed to be accurate at the time of publication. No warranty, expressed or implied, is made with regard to this information. This information may not be adequate for every application, and the user must determine the suitability of this information due to the manner/conditions of use, storage or local regulations.

Material Safety Data Sheet

ZEBA®

01. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	ZEBA FARM, NURSERY & GREENHOUSE, TURF & SPECIALTY, ROOT DIP, SEED COATING
Product Identification Number(s)	107830–79–5
Manufacturer/Supplier	Absorbent Technologies, Inc. Beaverton, Oregon 97008
MSDS Prepared by	Absorbent Technologies, Inc.
Chemical Name	Starch-g-poly (2-propenamide-co-2-propenoic acid) potassium salt
Synonym(s)	957944
Molecular Formula	Starch ($C_6H_{10}O_5$) containing grafted side chains consisting of 2-propenamide $(C_3H_5NO)_n$-co-2-propenoic acid potassium salt $(C_3H_3O_2K)_n$ copolymers
Product Use	Polymer
OSHA Status	Nonhazardous

For emergency health, safety and environmental information, call Absorbent Technologies, Inc. 877.627.9931.
For emergency transportation information, call CHEMTREC at 800.424.9300 or call ATI at 877.627.9931.

02. COMPOSITION INFORMATION ON INGREDIENTS

(Typical composition is given, and it may vary. A certificate of analysis can be provided).

WEIGHT %	COMPONENT	CAS REGISTRY NO.
88%	Starch-g-poly (2 propenamide-co-2 -propenoic acid) potassium salt	107830–79–5
12%	Inerts	7732–18–5

03. HAZARDS IDENTIFICATION

CAUTION!
POWDERED MATERIAL MAY FORM EXPLOSIVE DUST
– AIR MIXTURES

HMIS® Hazard Ratings:
Health – 1, Flammability – 1, Chemical Reactivity – 0

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of his material, all the information contained in this MSDS must be considered.

04. FIRST-AID MEASURES

Inhalation
If symptomatic, move to fresh air.
Get medical attention if symptoms persist.

Eyes
Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.
Get medical attention if symptoms persist.

Skin
Wash with soap and water.
Get medical attention if symptoms occur.

Ingestion
Seek medical advice.

05. FIRE FIGHTING MEASURES

Minimum Ignition Temperature
375°C (707°F)

Minimum Explosive Concentration
0.495 oz/ft

Extinguishing Media
Water spray, dry chemical.
Polymer absorbs water and becomes slippery when wet.

Special Fire-Fighting Procedures
Wear self-contained breathing apparatus and protective clothing.

Hazardous Combustion Products
Carbon dioxide, carbon monoxide.

Unusual Fire and Explosion Hazards
Powdered material may form explosive dust-air mixtures.

Sensitivity to Static Discharge
Material may accumulate a static charge which could act as an ignition source.

06. ACCIDENTAL RELEASE MEASURES

Sweep or scoop up and remove.

07. HANDLING AND STORAGE

Personal Precautionary Measures
Avoid contact with molten material.

Prevention of Fire and Explosion
Keep from contact with oxidizing materials. Minimize dust generation and accumulation. In the United States of America, refer to NFPA® Pamphlet No. 654, "Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical, and Plastics Industries."

Storage
Keep container closed.

08. EXPOSURE CONTROLS/PERSONAL PROTECTION

Country specific exposure limits have not been established or are not applicable unless listed below.

Ventilation
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may needed in special circumstances such as poorly ventilated spaces, mechanical generation of dusts, heating, drying, etc.

Respiratory Protection
If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1988.
Respirator type: dust.

Eye Protection
It is a good industrial hygiene practice to minimize eye contact.

(continued)

Skin Protection
It is a good industrial hygiene practice to minimize skin contact.

Recommended Decontamination Facilities
Eye bath, washing facilities.

09. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form	Solid
Color	Tan
Odor	Slight to strong smell resembling Ammonia. As a hydrogel, virtually odorless.
Specific Gravity	< 1
Solubility in Water	Negligible
pH	6–8
Flash Point	Not applicable, combustible solid

Thermal Decomposition Temperatures
Thermal stability not tested. Low stability hazard expected at normal operating temperatures.

10. STABILITY AND REACTIVITY

Stability	Stable
Incompatibility	Material reacts with strong oxidizing agents
Hazardous Polymerization	Will not occur
Hazardous Decomposition Products	Not Applicable
Conditions to Avoid	None

11. TOXICOLOGICAL INFORMATION

Toxicity data are not available unless listed below.

12. ECOLOGICAL INFORMATION

This material has not been tested for environmental effects.

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate.

14. TRANSPORTATION INFORMATION

Marine Pollutant components
None unless listed below.

DOT (USA)	Class not regulated
ICAO Status	Class not regulated
IMDG Status	Class not regulated

15. REGULATORY INFORMATION

WHMIS (Canada) **Status**
Noncontrolled.

SARA313
None, unless listed below.

Carcinogenicity Classification
(components present at .01% or more)
None NIP – No, IARC – No, OSHA – No.

TSCA (US Toxic Substances Control Act)
One or more components of this product are not listed on the TSCA inventory.

16. OTHER INFORMATION

Visit our website at **www.zeba.com** or call 1.877.627.9931

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information. Users should make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials, the safety and health of employees and customers and the protection of the environment.

Material Safety Data Sheet

Product Name: COLOR COAT YELLOW LIQUID
Product Code: BUI/CCOATYELLOW

HMIS Codes: H F R P
1 1 0 X

Section I – Manufacturer Identification

Manufacturer's Name: Becker Underwood, Inc.
Emergency Phone: Chemtrec (800) 424-9300
Prepared By: MSDS Coordinator
Address: P.O. Box 667, 801 Dayton Ave., Ames, IA 50010
Information Phone: (515) 232-5907
Date Revised: September 15, 2003

Section II – Components and Hazards

Components **Occupational Exposure Limits**

Component	CAS Number	OSHA PEL	ACGIH TLV	Weight Percent

No reportable quantities of hazardous ingredients are present
No reportable quantities of toxic chemical(s) subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372 are present

Section III - Physical/Chemical Characteristics

Boiling Point: NE
Vapor Density: Heavier than air
Solubility In Water: Soluble
Specific Gravity: (H_20 = 1): 1.1-1.2
Evaporation Rate: Slower than ether
Appearance and Odor: Yellow liquid, slight odor.

Section IV - Fire and Explosion Hazard Data:

Flash Point: NA **Method Used:** NA
Flammable Limits in Air by Volume: NA **Lower:** NA **Upper:** NA
Extinguishing Media: Foam, alcohol foam, CO2, dry chemical, water fog
Fire Fighting Precautions & Hazards: Fire fighters should wear butyl rubber boots, gloves, and body suit and a NIOSH/MSHA self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: Not a fire or explosion hazard when stored under normal conditions.

Section V – Reactivity Data

Stability: Stable
Conditions to Avoid: Extremes in temperature. High humidity.
Incompatibility (Materials to Avoid): Long term storage in direct contact with reactive metals such as aluminum, zinc, copper, nickel, magnesium, etc. Other materials to avoid include strong oxidizing agents.
Hazardous Decomposition Products: When involved in a fire, burning may evolve noxious fumes which may include carbon monoxide, carbon dioxide, nitrous oxides, acetic acid, or other toxic compounds depending on the chemical composition and combustion conditions. However, all of the water must be driven off first for this to occur.
Hazardous Polymerization: Will not occur.

Section VI - Health Hazard Data

Inhalation Health Risks and Symptoms of Exposure: Prolonged inhalation may lead to respiratory tract irritation.
Skin and Eye Contact Health Risks and Symptoms of Exposure: Prolonged or repeated contact may result in irritation.
Skin Absorption Health risks and Symptoms of Exposure: None expected.
Ingestion Health Risks and Symptoms of Exposure: Ingestion of large quantities may be harmful.
Health Hazards (acute and chronic): None known.
Carcinogenicity NTP? No **IARC Monographs?** No
Existing Medical Conditions Generally Aggravated By Exposure: May provoke asthmatic response in persons with asthma who are sensitive to airway irritants.

Section VI - Health Hazard Data (Continued)

Emergency and First Aid Procedures:

Eyes: Flush with flowing water for at least 15 minutes. Call a physician.

Skin: Wash affected area with soap and water. If irritation develops consult a physician. Remove and launder contaminated clothing before reuse.

Inhalation: If difficulty in breathing occurs, move to fresh air. Get immediate medical attention.

Ingestion: Get immediate medical attention. Unless advised otherwise, dilute with water or milk.

Section VII – Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled: Contain the spill to prevent a large discharge to surface streams or storm sewers. Since landfill operations will not accept liquid waste, allow to dry if possible before collecting for disposal. An absorbent material would aid in cleaning up a liquid spill. If liquid cleanup is necessary, collect in drums, buckets, or other containers.

Waste Disposal Method: The environmental concern is discoloration of land or water. If possible, the product should be dried before disposal. Disposal must be made in accordance with federal, state, and local regulation.

Precautions to be Taken in Handling and Storing: Local exhaust. Do not freeze. Avoid unnecessary skin contact. Do not breathe fumes.

Other Precautions: Eye wash fountains should be easily accessible. As with all chemicals, keep out of the reach of children.

Section VIII - Control Measures

Respiratory: If excessive vapors or mists are generated, wear NIOSH/MSHA approved organic vapor/mist respirator.

Ventilation: Use local exhaust to control excessive vapors/mists. If applicable, proper personal protection is a NIOSH/MSHA approved respirator.

Clothing: Gloves, coveralls, apron, boots as necessary to prevent skin contact as needed.

Eye: Chemical goggles; wear face shield if splashing hazard exists.

Other: Open wounds or skin surface disruptions should be covered with a chemical resistant patch to minimize absorption risks. Clean clothing should be worn daily to avoid possible long-term build up of the product leading to chronic overexposure. . Safety shower, eye wash fountain, and washing facilities should be readily available.

Section IX - Shipping and Labeling Information

D.O.T. Shipping Data: Not regulated.

D.O.T. Hazard Classification NA

D.O.T. Labels Required: NA

D.O.T. Identification NA

Section X - Disclaimer

The opinions expressed herein are those of qualified persons with Becker Underwood, Inc. We believe the information contained here is current as of the date of this Material Safety Data Sheet. Since the use of this product is not within the control of Becker Underwood, Inc., it is the user's obligation to determine a safe end use of this product.

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name: Color Coat Blue Liquid
Product Code: BUI/CCOATBLUE
Effective Date: June 8, 2007

Hazardous Material Information System:

Health	1
Fire Hazard	1
	0
Personal Protection	X

Manufacturer Information:
Becker Underwood, Inc.
801 Dayton Avenue
Ames, Iowa 50010
Information Phone: (515) 232-5907
Emergency Phone: Chemtrec (800) 424-9300

Section 2. Hazard Identification

Hazardous Components		Occupational Exposure Limits		
Component	**CAS Number**	**OSHA PEL**	**ACGIH TLV**	**Weight Percent**
No reportable quantities of hazardous ingredients are present				
No reportable quantities of toxic chemical(s) subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372 are present				

Emergency Overview: May cause respiratory tract, eye, and skin irritation.

Potential Acute Health Effects:

Eyes: Short term harmful effects are not expected. However, irritation may develop causing itching and redness.

Skin: Short term harmful effects are not expected. However, mild skin irritation may develop causing itching and redness.

Inhalation: Short term harmful effects are not expected. However, exposure to vapors or mist may cause coughing or wheezing when inhaled.

Ingestion: Not an intended route of exposure. Short term harmful effects are not expected. However, may upset the gastrointestinal tract and cause diarrhea.

Section 3. Composition/Information on Ingredients

The composition of this material is a trade secret. Contains no other components or impurities which will influence the classification with regard to human and environmental risk assessment.

Section 4. First Aid Measures

Eye Contact: Immediately flush eyes with water for at least 15 minutes. Prolonged or repeated contact may result in mechanical irritation.

Skin Contact: Wash with soap and water.

Inhalation: Move to fresh air. Seek medical attention if irritation persists.

Ingestion: Seek medical attention.

Section 5. Fire Fighting Measures

Flammability of Product: Not a fire or explosion hazard when stored under normal conditions.

Fire Fighting Media: Foam, alcohol foam, CO2, dry chemical, water fog

Protective Clothing: This product is an aqueous mixture which will not burn. If evaporated to dryness, the solid residue may pose a moderate fire hazard. No special procedures required besides standard fire fighting procedures.

Section 6. Accidental Release Measures

Clean-Up Procedures: Collect spilled material with an inert absorbent such as sand or vermiculite. Place in properly labeled and closed container. Dispose of collected material according to federal, state, and local regulations.

Spills and Leaks: Contain the spill or leak to prevent a discharges to surface streams or storm sewers. This material is a concentrated dye/pigment. Small quantities in contaminated water solutions will color large volumes.

Section 7. Handling and Storage

Handling: Avoid breathing fumes. General mechanical ventilation can be expected to effectively remove and prevent build up of any vapor or mist generated from handling this product in a closed environment. Do not freeze. Protect eyes to prevent contact. Avoid prolong or repeated exposure to skin.

Storage: Keep container in a dry place inaccessible to children and pets at temperatures above freezing. Keep containers sealed until ready for use.

Section 8. Exposure Control/Personal Protection

Engineering controls: General mechanical ventilation can be expected to effectively remove and prevent build up of any vapor or mist generated from handling this product in a closed environment

Personal Protection:

Eyes: Wear safety glasses with side shields. Wear additional eye protection such as chemical goggles or face shield if splashing or spraying hazard exists. Have an eye wash station available.

Body: To prevent skin contact use coveralls, apron, boots, or lab coat.

Hands: Avoid skin contact by using chemically resistant gloves.

Respiratory: No respiratory protection required under normal conditions of use. Use local exhaust to control excessive vapors/mists. If excessive vapors or mists are persist use appropriate NIOSH/MSHA approved organic vapor/mist respirator.

Other: Open wounds or skin surface disruptions should be covered with a chemical resistant patch to minimize absorption risks. Clean clothing should be worn daily to avoid possible long-term build up of the product leading to chronic overexposure.

Section 9. Physical and Chemical Properties

Odor	Slight odor	**Vapor Density**	Heavier than air
Color	Dark Blue	**Evaporation Rate**	Slower than ether
Physical state	Liquid	**Specific Gravity (H_20 = 1)**	1.1-1.2 g/mL
pH	7.5-9.5	**Solubility**	Water soluble
Melting/Freezing Point	NA		

Section 10. Stability and Reactivity

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

Hazardous Decomposition: When involved in a fire, burning may evolve noxious fumes which may include carbon monoxide, carbon dioxide, nitrous oxides, acetic acid, or other toxic compounds depending on the chemical composition and combustion conditions. However, all of the water must be driven off first for this to occur.

Hazardous Polymerization: Is not known to occur.

Incompatibility (Materials to Avoid): Long term storage in direct contact with reactive metals such as aluminum, zinc, copper, nickel, magnesium, etc. Other materials to avoid include strong oxidizing agents.

Section 11. Toxicological Information

Chronic Toxicity: None known
Carcinogenic Effects: None known
Mutagenic Effects: None known
Teratogenic Effects: None known
Developmental Toxicity: None known

Acute Effects on Humans: May cause skin, eye, and respiratory irritation.

Sensitization: Repeated or prolonged exposure to the substance at concentration above the exposure limits may cause respiratory tract and lung sensitization.

Carcinogenic Effects: This material is not known to cause cancer in animals or humans.

Existing Medical Conditions Aggravated By Exposure: May provoke asthmatic response in persons with asthma who are sensitive to airway irritants

Section 12. Ecological Information

Ecotoxicity: No data available, however the material is not expected to have any deleterious toxic effect.

Environmental Fate: No data available regarding the environmental fate or biodegradation.

Section 13. Disposal Considerations

EPA Waste Number: Non-hazardous waste

Treatment: Dispose of according to all federal, state, local, and provincial environmental regulations.

Section 14. Transport Information

D.O.T. Classification: Not regulated
IMO/IMDG Classification: Not regulated
IATA Classification: Not regulated

Section 15. Regulatory Information

Hazardous Material Information System:

Health	1
Fire Hazard	1
	0
Personal Protection	X

US Federal Regulations:
Product Information: This product is not considered hazardous.
SARA 311/312:

Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

SARA 313: No reportable quantities of toxic chemical(s) subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372 are present

Regulatory Listings

United States	(TSCA):	Listed
Canada	(CEPA):	Unknown
Europe	(EINECS):	Unknown
Australia	(AICS):	Unknown
Japan	(MITI):	Unknown
Korea	(ECL):	Unknown
China	(NEPA):	Unknown

Section 16. Other Information

The information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best Becker Underwood's knowledge. Because use conditions and applicable laws may differ from one location to another and may change with time, Recipient is responsible for determining whether the information is appropriate for recipient's use. Since Becker Underwood has no control over how this information may be ultimately used, all liability is expressly disclaimed and Becker Underwood assumes no liability.

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name: Color Coat Green Liquid
Product Code: BUI/CCOATGREEN
Effective Date: May 18, 2007

Manufacturer Information:
Becker Underwood, Inc.
801 Dayton Avenue
Ames, Iowa 50010
Information Phone: (515) 232-5907
Emergency Phone: Chemtrec (800) 424-9300

Hazardous Material Information System III:

Health	1
Fire Hazard	1
Physical Hazard	0
Personal Protection	X

Section 2. Ingredients and Hazards Identification

Hazardous Components		Occupational Exposure Limits		
Component	**CAS Number**	**OSHA PEL**	**ACGIH TLV**	**Weight Percent**
No reportable quantities of hazardous ingredients are present				
No reportable quantities of toxic chemical(s) subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372 are present				

Emergency Overview: May cause respiratory tract, eye, and skin irritation.

Potential Acute Health Effects:

Eyes: Short term harmful effects are not expected. However, irritation may develop causing itching and redness.

Skin: Short term harmful effects are not expected. However, mild skin irritation may develop causing itching and redness. Temporary discoloration of skin may occur.

Inhalation: Short term harmful effects are not expected. However, exposure to vapors or mist may cause coughing or wheezing when inhaled.

Ingestion: Not an intended route of exposure. Short term harmful effects are not expected. However, may upset the gastrointestinal tract.

Section 3. Composition/Information on Ingredients

The composition of this material is a trade secret. Contains no other components or impurities which will influence the classification with regard to human and environmental risk assessment.

Section 4. First Aid Measures

Eye Contact: Immediately flush eyes with water for at least 15 minutes. Prolonged or repeated contact may result in mechanical irritation.

Skin Contact: Wash with soap and water.

Inhalation: Move to fresh air. Seek medical attention if irritation develops.

Ingestion: Dilute with water and induce vomiting. Seek medical attention.

Section 5. Fire Fighting Measures

Flammability of Product: Not a fire or explosion hazard when stored under normal conditions.

Fire Fighting Media: Foam, alcohol foam, CO2, dry chemical, water fog.

Protective Clothing: This product is an aqueous mixture which will not burn. If evaporated to dryness, the solid residue may pose a moderate fire hazard. No special procedures required besides standard fire fighting procedures.

Section 6. Accidental Release Measures

Clean-Up Procedures: Collect spilled material with an inert absorbent such as sand or vermiculite. Place in properly labeled and closed container. Dispose of collected material according to federal, state/provincial and local environmental regulations.

Spills and Leaks: Contain the spill or leak to prevent discharges to surface streams or storm sewers. This material is a concentrated dye/pigment. Small quantities in contaminated water solutions will color large volumes.

Section 7. Handling and Storage

Handling: Avoid breathing fumes. General mechanical ventilation can be expected to effectively remove and prevent build up of any vapor or mist generated from handling this product in a closed environment. Protect eyes to prevent contact. Avoid prolonged or repeated exposure to skin.

Storage: Keep container in a dry place inaccessible to children and pets at temperatures above freezing. Keep containers sealed until ready for use.

Section 8. Exposure Control/Personal Protection

Engineering controls: General mechanical ventilation can be expected to effectively remove and prevent build up of any vapor or mist generated from handling this product in a closed environment.

Personal Protection:

Eyes: Wear safety glasses with side shields. Wear additional eye protection such as chemical goggles or face shield if splashing or spraying hazard exists. Have an eye wash station available.

Body: To prevent skin contact wear coveralls, apron, boots, or lab coat.

Hands: Avoid skin contact by using chemically resistant gloves.

Respiratory: No respiratory protection required under normal conditions of use. Use local exhaust to control excessive vapors/mists. If excessive vapors or mists persist use appropriate NIOSH/MSHA approved organic vapor/mist respirator.

Other: Open wounds or skin surface disruptions should be covered with a chemical resistant patch to minimize absorption risks. Clean clothing should be worn daily to avoid possible long-term build up of the product leading to chronic overexposure.

Section 9. Physical and Chemical Properties

Odor	Slight odor	**Vapor Density**	Heavier than air
Color	Dark Green	**Evaporation Rate**	Slower than ether
Physical state	Liquid	**Specific Gravity ($H_20 = 1$)**	~ 1.3 g/mL
pH	7-8	**Solubility**	Dispersible
Melting/Freezing Point	NA		

Section 10. Stability and Reactivity

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

Hazardous Decomposition: When involved in a fire, burning may evolve noxious fumes which may include carbon monoxide, carbon dioxide, nitrous oxides, acetic acid, or other toxic compounds depending on the chemical composition and combustion conditions. However, all of the water must be driven off first for this to occur.

Hazardous Polymerization: Is not known to occur.

Incompatibility (Materials to Avoid): Mineral acids (i.e., sulfuric, phosphoric, etc); alkalis (i.e. sodium or potassium hydroxide, etc.), strong oxidizing agents, high heat sources, sparks, open flames.

Section 11. Toxicological Information

Chronic Toxicity: None known
Mutagenic Effects: None known
Teratogenic Effects: None known
Developmental Toxicity: None known

Acute Effects on Humans: May cause skin, eye, and respiratory irritation.

Sensitization: Repeated or prolonged exposure to the substance at concentration above the exposure limits may cause respiratory tract and lung sensitization.

Carcinogenic Effects: This material is not known to cause cancer in animals or humans.

Existing Medical Conditions Aggravated By Exposure: May provoke asthmatic response in persons with asthma who are sensitive to airway irritants.

Section 12. Ecological Information

Ecotoxicity: No data available, however the material is not expected to have any deleterious toxic effect.

Environmental Fate: No data available regarding the environmental fate or biodegradation.

Section 13. Disposal Considerations

EPA Waste Number: Non-hazardous waste

Treatment: Dispose of according to all federal, state/provincial and local environmental regulations.

Section 14. Transport Information

D.O.T. Classification: Not regulated
IMO/IMDG Classification: Not regulated
IATA Classification: Not regulated

Section 15. Regulatory Information

Hazardous Material Information System III:

Health	1
Fire Hazard	1
Physical Hazard	0
Personal Protection	X

US Federal Regulations:
Product Information: This product is not considered hazardous.
SARA 311/312:
Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

SARA 313: No reportable quantities of toxic chemical(s) subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372 are present.

Regulatory Listings
United States (TSCA): Listed

Section 16. Other Information

The information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Becker Underwood's knowledge. Because use conditions and applicable laws may differ from one location to another and may change with time, Recipient is responsible for determining whether the information is appropriate for recipient's use. Since Becker Underwood has no control over how this information may be ultimately used, all liability is expressly disclaimed and Becker Underwood assumes no liability.