



SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Bold's Basal Medium Solution, 50x

PRODUCT NUMBER: B1650

COMPANY INFO: *PhytoTechnology Laboratories®*
PO Box 12205, Shawnee, KS 66282-2205
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442
www.phytotechlab.com

EMERGENCY PHONE NUMBER 1-800-535-5053 - US Only
(INFOTRAC): 1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories®* are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Not a hazardous substance or mixture.

GHS Label elements, including hazard and precautionary statements:

Not a hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture that contains, but is not limited to, the following components that may cause harm to the user or environment or may be suspected to do so:

Ingredient	CAS Number	Percent	Hazardous
Boric Acid	10043-35-3	1.62%	No exposure limits established by OSHA or ACGIH
EDTA, Disodium Salt, Dihydrate	6381-92-6	9.02%	No exposure limits established by OSHA or ACGIH
Ferrous Sulfate, Heptahydrate	7782-63-0	0.706%	ACGIH TLV: 1 mg (Fe)/m ³
Cupric Sulfate, Pentahydrate	7758-99-8	0.223%	NIOSH REL: 1 mg/m ³
Manganese Sulfate, Anhydrous	7487-88-9	5.20%	No exposure limits established by OSHA or ACGIH
Manganese Chloride•4H ₂ O	13446-34-9	0.204%	OSHA PEL: 5 mg (Mn)/m ³ ; ACGIH TLV: 0.2 mg (Mn)/m ³
Sodium Molybdate (VI), Dihydrate	10102-40-6	0.169%	OSHA PEL: 5 mg(Mo)/m ³ ; ACGIH TLV: 0.5 mg(Mo)/m ³
Zinc Sulfate•7H ₂ O	7446-20-0	1.25%	No exposure limits established by OSHA or ACGIH

4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry Symptoms

Ingestion May cause irritation if swallowed

First Aid Procedures

If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. **Get medical attention.**

Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.
Special Protective Equipment and Precaution for Firefighters:	In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.
Hazardous Combustion Products:	No data available

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Method of Containment and Cleanup:	Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains.

7. HANDLING AND STORAGE

Precaution for Safe Handling:	Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Keep away from combustible materials. Wash thoroughly after use.
Conditions for Safe Storage:	Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Protect from moisture.
Incompatibilities:	No data available
Recommended Storage Temperature:	2-8°C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs):	Sodium Molybdate (VI), Dihydrate: 5 mg (Mo)/m ³ Manganese Chloride, tetrahydrate: 5 mg (Mn)/m ³
ACGIH Threshold Limit Values (TLVs):	Sodium Molybdate (VI), Dihydrate: 0.5 mg (Mo)/m ³ Ferrous Sulfate, Heptahydrate: 1 mg (Fe)/m ³ Manganese Chloride, tetrahydrate: 0.2 mg (Mn)/m ³
Engineering Controls:	Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection:	Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.
Skin Protection:	Protective gloves
Body Protection:	Lab coat
Respiratory Protection:	Respiratory protection is not required. Use N95 (US) or type P1 (EN 143) dust mask where dust level is nuisance. A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by purifying respirators is limited.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to off-white crystals or powder	
pH (0.0086 g/L):	Under Development (5.0 – 6.0 suspected range)	
Solubility:	Soluble in Water	
Melting Range:	No data available	
Vapor Density:	No data available	
Vapor Pressure:	No data available	
Specific Gravity:	No data available	
Odor:	Odorless	
Odor Threshold:	No data available	
Viscosity:	No data available	
Relative Density:	No data available	
Evaporation Rate:	No data available	
Initial Boiling Point and Boiling Range:	No data available	
Flammability (solid, gas):	No data available	
Partition coefficient: n-octanol/water):	No data available	
Auto-ignition Temperature:	No data available	
Decomposition Temperature:	No data available	
Flash Point (Closed Cup):	No data available	
Flammable Limits:	Upper (%) – No data available	Lower (%) – No data available

10. STABILITY AND REACTIVITY

Reactivity:	No data available	
Chemical Stability:	Stable under normal conditions of use	
Possibility of Hazard Reactions:	No data available.	
Conditions to Avoid:	No data available.	
Incompatibles Materials:	Strong oxidizing agents, alkali carbonates, borax, strontium salts, lead	
Hazardous Decomposition Products:	Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas, Potassium oxides, Sodium oxides, Cobalt/cobalt oxides, Molybdenum oxides, Copper oxides	

11. TOXICOLOGICAL INFORMATION

Toxicity:	LD ₅₀ (Oral-Rat)(mg/Kg):	No data available
	LD ₅₀ (IP-Mouse)(mg/Kg):	No data available
	LD ₅₀ (Dermal-Rabbit)(mg/Kg):	No data available

Carcinogenicity:	NTP:	No
	IARC:	No
	OSHA Reg:	No

Reproductive Toxicity: No data available

Specific Target Organ Toxicity:	Single Exposure:	No data available
	Repeated Exposure:	No data available

Target Organs: No data available

Routes of Entry: Ingestion, inhalation, skin and eye contact

NIOSH/RTECS NO: Not available

To the best of our knowledge the toxicological properties of this product have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No data available
Persistence and Degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available
Other Adverse Effects:	No data available

13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
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14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

International:

IMDG:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

IATA:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

15. REGULATORY INFORMATION

TSCA:	No
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SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: No

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Acute Health Hazard, Chronic Health Hazard, Reactivity Hazard

California Proposition 65 List: None of the components in this product are known to cause cancer or reproductive toxicity

Massachusetts Right To Know Components:

	CAS No.
Sodium Nitrate	7631-99-7
Ferrous Sulfate	7782-63-0
Zinc Sulfate	7446-20-0

New Jersey Right to Know Components:

	CAS No.
Ferrous Sulfate	7782-63-0
Zinc Sulfate	7446-20-0

Pennsylvania Right to Know Components:

	CAS No.
Ferrous Sulfate	7782-63-0
Zinc Sulfate	7446-20-0
Manganese Chloride, Tetrahydrate	13446-34-9

16. OTHER INFORMATION

HMIS Rating:	Health	Flammability	Physical Hazard	Personal Protection
	2	0	2	B
NFPA Rating:	Health	Fire Hazard	Instability	Special Hazard
	2	0	2	OX

***PhytoTechnology Laboratories®* provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. *PhytoTechnology Laboratories®* shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

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