MATERIAL SAFETY DATA SHEET

PhytoTechnology Laboratories

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Murashige & Skoog Modified Basal Salt Mixture, Without Nitrogen

SYNONYMS:

PRODUCT NUMBER: M531

CAS NO: Not listed

NIOSH/RTECS NO: Not listed

COMPANY INFO: *Phyto* Technology Laboratories
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent	Hazardous
EDTA, Disodium Salt, Dihydrate	6381-92-6	4.77 %	No exposure limits established by OSHA or ACGIH
Cobalt Chloride, Hexahydrate	7791-13-1	0.003 %	No exposure limits established by OSHA or ACGIH
Cupric Sulfate, Pentahydrate	7758-99-8	0.003 %	No exposure limits established by OSHA or ACGIH
Sodium Molybdate(VI), Dihydrate	10102-40-6	0.03 %	OSHA PEL: 5 mg (Mo)/m^3; ACGIH TLV: 5 mg (Mo)/m^3
Manganese Sulfate, Monohydrate	10034-96-5	2.16 %	OSHA PEL: 5 mg (Mn)/m^3
Potassium Iodide	7681-11-0	0.11 %	No exposure limits established by OSHA or ACGIH
Boric Acid	10043-35-3	0.79 %	No exposure limits established by OSHA or ACGIH

3. PHYSICAL & CHEMICAL PROPERTIES

Product Description: Murashige & Skoog Modified Basal Salt Mixture, Without Nitrogen
Formula: N/A
Molecular Weight: N/A
Storage Temperature: 2 to 6 C
pH (0.78 g/L): Under Development (3.5 – 4.5 suspected range)
Vapor Density: N/A
Melting Point: N/A
Specific Gravity: N/A
Solubility: Soluble in Water
Appearance: White to off-white powder
Odor: Odorless

4. HAZARDS IDENTIFICATION

Label Hazard Warnings: Irritating to eyes, respiratory system, and skin

Label Precautionary Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Laboratory Protective Equipment: Safety glasses, protective gloves, and lab coat

HMIS Rating:	Health	Flammability	Reactivity	Personal Protection Equipment
	N/A	N/A	N/A	N/A

NFPA Rating:	Health	Flammability	Reactivity	Special Hazards
	N/A	N/A	N/A	N/A

Storage and Handling Precautions: Store in a tightly sealed container in a cool, dry place. Protect from moisture. Do not breathe dust. Wash thoroughly after handling

5. POTENTIAL HEALTH HAZARDS/ TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50} (Oral-Rat)(mg/Kg):	N/A
	LD_{50} (IV-Rat)(mg/Kg):	N/A
	LD_{50} (Oral-Mouse)(mg/Kg):	N/A
Carcinogenicity:	NTP:	No
	IARC:	No
	Z List:	No
	OSHA Reg:	No

Effects of Overexposure:	Irritation, gastrointestinal upset
Target Organs:	None identified
Medical Conditions Aggravated By Exposure:	None identified
Routes of Entry:	Ingestion, inhalation, skin and eye contact

The toxicological properties of this product have not been thoroughly investigated

6. EMERGENCY AND FIRST AID

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	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.**

7. FIRE HAZARDS & FIRE FIGHTING MEASURES

Flash Point (Closed Cup):	N/A
Flammable Limits:	Upper – N/A % Lower – N/A %
Fire Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.
Special Fire-Fighting Procedures:	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.
Unusual Fire & Explosion Hazards:	May emit toxic fumes under fire conditions.
Toxic Gases Produced:	Carbon monoxide, carbon dioxide

8. REACTIVITY & CONDITIONS TO AVOID

Stability:	Stable
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	Moisture, excessive heat
Incompatibles:	Strong oxidizing agents
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide

9. SPECIAL PRECAUTIONS/PROTECTIVE EQUIPMENT

Ventilation:	Ventilation hood
Respiratory Protection:	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.
Eye/Skin Protection:	Have eye-washing facilities readily available where eye contact can occur. Wear chemical safety goggles. Use appropriate chemical protective gloves when handling. Showering and changing into street clothes after work is recommended.

10. SPILLS & LEAKS

Spill or Discharge:	Wear suitable protective clothing and a self-contained breathing apparatus if available. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water.
Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
EPA Hazardous Waste Number:	N/A

11. TRASNPORTATION DATA

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

12. REGULATORY INFORMATION

U.S. Federal Regulatory Information

TSCA:	No
SARA TITLE III:	
Section 302 (EHS) Ingredients:	No
Section 313 Ingredients:	Yes – Manganese compound of concentration >1.0 %
Section 304 (EHS/CERCLA) Ingredients:	No

SARA TITLE III NOTIFICATION INFORMATION

Acute Health Hazard:	No
Chronic Health Hazard:	No
Fire Hazard:	No
Sudden Release of Pressure Hazard:	No

International Regulatory Information

Risk Phrases:	36/37/38 – Irritating to eyes, respiratory system, and skin
Safety Phrases:	26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
	36 – Wear suitable protective clothing

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