

BOTANICA HORTICULTURE PTY LIMITED

Plant Tissue Culture Media – Plant Growth Regulators – Reagents and Bio Chemicals

Material Safety Data Sheet (MSDS)

Murashige and Skoog Medium (Vitamins Mixture)

Version: 1.0

VIT-M-3801

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Murashige and Skoog Medium

(Vitamins Mixture)

Date of Issue: 2022-05-05

Supersedes: 2022-06-20

VIT-M-3801

SECTION 1. IDENTIFICATION

Product Form : Mixture
Trade Name : Murashige and Skoog Medium
(Vitamins Mixture)
Brand : BotanicaHorti
Product Code : VIT-M-3801
Main Use Category : Professional Use
Recommended Use : For Plant Tissue Culture Purposes only

Details of the supplier of the Safety Data Sheet:

Supplier

Botanica Horticulture Pty Limited
No: 25, Corymbia Grove
South Morang, Victoria - 3752
Australia

Emergency Contact Information

Tel Number (Office) : 0061394240115
(Monday – Friday 09:00 – 17:00)
Tel Number (Lab) : 0061449750584
(Monday – Friday 09:00 – 17:00)
Fax Number : 0061394240115
Emergency Number (Outside Office Hours) : 0061449750584

Emergency Contact Details

Organization	Location	Telephone
Poisons Information Center	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888

SECTION 2. HAZARDS IDENTIFICATION

Classification of the Substance or Mixture:

GHS Classification:

Not a Hazardous Substance or Mixture according to the Globally Harmonized System (GHS)

GHS Label Elements, Including Precautionary Statements:

Not a Hazardous Substance or Mixture according to the Globally Harmonized System (GHS)

Other Hazards:

None

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SECTION 3. COMPOSITION-INFORMATION ON INGREDIENTS

Product Form : Mixture

Name	Product Identifier	Concentration %	According to GHS
Glycine	(CAS-No) 56-40-6 (EC-No) 200-272-2	1.9398	Not Classified
Myo-Inositol	(CAS-No) 87-89-8 (EC-No) 201-781-2	96.9932	Not Classified
Nicotinic Acid	(CAS-No) 59-67-6 (EC-No) 200-441-0	0.4849	Eye Irritation Category 2 – H319
Pyridoxine HCl (Vitamin B6)	(CAS-No) 58-56-0 (EC-No) 200-386-2	0.4849	Eye Damage Category 1 – H318
Thiamine HCl	(CAS-No) 67-03-8 (EC-No) 200-641-8	0.0969	Not Classified

Full Text of H - and EUH – Statements: See Section 16

SECTION 4. FIRST AID MEASURES

Advice: Consult a Physician. Show this Safety Data Sheet to the Doctor in attendance. Move out of Dangerous area.

If Swallowed: Never give anything by Mouth to an Unconscious person. Rinse Mouth with Water. Consult a Physician.

In Case of Skin Contact: Wash off with Soap and plenty of Water. Consult a Physician.

In Case of Eye Contact: Rinse thoroughly with plenty of Water for at least 15 minutes and consult a Physician.

If Inhaled: If Breathed in move person into Fresh Air. If not breathing, give Artificial Respiration. Consult a Physician.

Most Important Symptoms and Effects, both Acute and Delayed:

Symptoms-effect after Skin contacted : Causes Skin Irritation

Symptoms-effect after Eye contacted : Redness and Pain

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SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use Water Spray, Alcohol-Resistant Foam, Dry Chemical or Carbon Dioxide (CO₂)

Special Protective Equipment and Precautions for Fire-Fighters: Wear self-contained Breathing Apparatus for Firefighting if necessary.

Special Hazards Arising from the Substance or Mixture:

Under Fire conditions, Hazardous fumes will be present: CO_x, NO_x, SO_x

Not Combustible

Advice for Firefighters: In the event of Fire, Wear Self-Contained Breathing Apparatus

Further Information: Not Available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. 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. Discharge into the environment must be avoided.

Methods and Material for Containment and Cleanup: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Advice on Protection against Fire and Explosion: Keep away from open Flames, Hot Surfaces and sources of Ignition

Hygiene Measures: Change Contaminated Clothing, wash Hands after working with Substance

Conditions for Safe Storage: Keep Container tightly closed in a Dry and well-Ventilated place. Light sensitive. Keep in a Dry place. And do not store near Combustible Materials

Recommended Storage Temperature: Store at Room Temperature

Storage Class: Storage Class (TRGS 510): 13: Non Combustible Solids

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SECTION 8. EXPOSURE CONTROLS-PERSONAL PROTECTION

Engineering Controls: Practice general industrial Hygiene practice. Ensure adequate ventilation, especially in confined areas. And wash Hands after working with Substance

Eye-Face Protection: Face Shield and Safety Glasses. Use equipment for Eye protection tested and approved under appropriate Government standards such as NIOSH (US) or EN 166 (EU) Safety Glasses

Skin and Body Protection: Wear suitable protective clothing

Respiratory Protection: Wear Mask - Filter Type P2 (DIN EN 143 or DIN 14387)

Hand protection:

Type	Material	Permeation	Thickness (mm)	Standard
Gloves	Nitrile Rubber (NBR)	6 (> 480 Minutes)	0.11	EN 374

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder

Appearance: Powder

Appearance: White to Slightly Yellow

Solubility: Readily soluble in Water

Melting Range: No Data available

Odor: Characteristic, Weak

Odor Threshold: No Data Available

PH: No Data Available

Viscosity, Kinematic: No Data Available

Viscosity, Dynamic: No Data Available

Relative Vapor Density at 20 °C: No Data Available

Evaporation Rate: No Data Available

Initial Boiling Point and Boiling Range: No Data Available

Flash Point: No Data Available

Flammability (Solid, gas): No Data Available

Flammability Upper/Lower Limits: No Data Available

Partition Coefficient: No Data Available

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Vapor Density: No Data Available

Vapor Pressure: No Data Available

Auto-Ignition Temperature: No Data Available

Decomposition Temperature: No Data Available

Freezing Point: No Data Available

Explosive Properties: No Data Available

Oxidizing Properties: No Data Available

Explosive Limits: No Data Available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Stable under normal conditions of storage, handling and use

Chemical Stability: Stable under normal conditions. (Room Temperature)

Possibilities of Hazardous Reactions: No dangerous reactions known under normal conditions of use

Conditions to Avoid: Moisture

Incompatible Materials: Strong Oxidizers, Powdered Metals

Hazardous Decomposition Productions: Thermal Decomposition generates COx, NOx, and SOxs

(For further information see SECTION 5)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Oral-No Data Available, Dermal-No Data Available, Inhalation-No Data Available

Skin Corrosion/Irritation: No Data Available

Serious Eye Damage/Irritation: Causes Eye Irritation

Respiratory or Skin Sensitization: No Data Available

Germ Cell Mutagenicity: No Data Available

Carcinogenicity: No Data Available

Reproductive Toxicity: No Data Available

STOT- Single Exposure: No Data Available

STOT- Repeated Exposure: No Data Available

Aspiration Hazard: No Data Available

Additional Information: Other Dangerous Properties cannot be excluded. Handle in accordance with good Industrial Hygiene and Safety Practice

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SECTION 12. ECOLOGICAL INFORMATION

Toxicity: No Additional Data Available

Persistence and Degradability: No Additional Data Available

Bio Accumulative Potential: No Additional Data Available

Mobility in Soil: No Additional Data Available

Results of PBT and vPvB Assessment: PBT/vPvB Assessment not available as Chemical safety Assessment not required and not conducted

Other Adverse Effects: No Data Available

Additional Information: Prevent entry to Sewers and Public Waters. Avoid release to the Environment

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Avoid release to the Environment. Dispose in a safe manner in accordance with Local and National Regulations

Disposal of Packaging: Dispose of as unused Product.

SECTION 14. TRANSPORT INFORMATION

ADR - RID	IMDG	IATA - DGR
Not Classified	Not Classified	Not Classified
UN Number		
Not Classified	Not Classified	Not Classified
UN Proper Shipping Name		
Not Dangerous Goods	Not Dangerous Goods	Not Dangerous Goods
Transport Hazard Class(es)		

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Not Classified	Not Classified	Not Classified
Packing Group		
Not Classified	Not Classified	Not Classified
Environmental Hazards		
NO	NO	NO
Special Precautions for User		
NONE		
Incompatible Materials		
Strong Reducing Agents, Strong Acids, Powdered Metals		
Hazchem Code		
Not Classified		
Clean up even Minor Leaks or Spills if Possible Without Unnecessary Risk		

Land Transport (Australia)

ADG Code – Australian Code for the Transport of Dangerous Goods by Road and Rail

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations:

Legislation specific for the Substance or Mixture

SECTION 16. OTHER INFORMATION

Abbreviations and Acronyms:

ADG	The Australian Code for the Transport of Dangerous Goods by Road and Rail
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances

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ATE	Acute Toxicity Estimate
BCF	Bio Concentration Factor
DSL	Domestic Substance List
DGR	Dangerous Goods Regulations
ECHA	Guidance on Information Requirements and Chemical Safety
ENCS	Japanese Existing and New Chemical Substances Inventory
GHS	The Globally Harmonized System of Classification and Labelling of Chemicals
HAZCHEM	Hazardous Chemical Code or Emergency Action Code
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
ISHL	Industrial Safety and Health Law
IUCLID	International Uniform Chemical Information Data Base
KECI	Korea Existing Chemical Inventory
LC 50	Median Lethal Concentration
LD 50	Median Lethal Dose
LOAEL	Lowest Observed Adverse Effect Level
MSDS	Material Safety Data Sheet
NOAEC	No-Observed Adverse Effect Concentration
NZIOC	New Zealand Inventory of Chemicals
OECD	Chemical Safety and Bio Safety Guidelines
PBT	Persistent Bio Accumulative Toxic
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations Concerning the International Carriage of Dangerous Goods By Rail
STOT	Specific Target Organ Toxicity

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H272	May Intensify Fire, Oxidizer
H302	Harmful if Swallowed
H315	Causes Skin Irritation
H317	May Causes an Allergic Skin Reaction
H318	May Causes Serious Eye Damage
H319	May Causes Serious Eye Irritation
H334	May Causes Allergy or Asthma Symptoms or Breathing difficulties if Inhaled
H335	May Causes Respiratory Irritation
H341	Suspected of Causing Genetics Defects
H350I	May Causes Cancer by Inhalation
H360F	May Damage Fertility
H360FD	May Damage Fertility, May Damage the Unborn Child
H373	Ma Causes Damage to Organs through Prolonged or Repeated Exposure
H400	Very Toxic to Aquatic Life
H410	Very Toxic to Aquatic Life with long lasting Effects
H411	Toxic to Aquatic Life with long lasting Effects
AUTE TOX (Oral) 4	Acute Toxicity (Oral), Category 4
AQUATIC ACUTE 1	Hazardous to the Aquatic Environment – Acute Hazard, Category 1
AQUAIC CHRONIC 1	Hazardous to the Aquatic Environment – Chronic Hazard, Category 1
AQUATIC CHRONIC 2	Hazardous to the Aquatic Environment – Chronic Hazard, Category 2
CARC. 1B	Carcinogenicity (Inhalation) Category 1B
EYE DAM. 1	Serious Eye Damage/Eye Irritation, Category 1
EYE IRRIT. 2	Serious Eye Damage/Eye Irritation, Category 2
MUTA. 2	Germ Cell Mutagenicity, Category 2
OX. SOL. 2	Oxidizing Solids, Category 2

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OX. SOL. 3	Oxidizing Solids, Category 3
REPR. 1B	Reproductive Toxicity, Category 1B
REPR. 1B	Reproductive Toxicity, Category 1B
RESP. SENS. 1	Respiratory Sensitization Category 1,
SKIN IRRIT. 2	Skin Corrosion/Irritation, Category 2
SKIN SENS. 1	Skin Sensitization, Category 1
STOT RE 2	Specific Target Organ Toxicity – Repeated Exposure, Category 2
STOT SE 3	Specific Target Organ Toxicity – Single Exposure, Category 3, Respiratory Tract Irritation

Further Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. However, all of the information in this document regarding the product remains unchanged and matches the product ordered.

Botanica Horticulture Pty Limited shall not be held liable for any damage resulting from handling or from contact with the above Product. This product is intended for **PLANT TISSUE CULTURE PURPOSES ONLY**. Our products may **NOT BE USED** as Drugs, Cosmetics, Agricultural or Pesticidal Products, Food Additives or as Household Chemicals.

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