1. Identification

Production Name: Hoagland's No. 2 Basal Salt Mixture. Modification 3. With Macronutrients and Micronutrients. Without Nitrogen.

Catalog Number: HOP03

Company: Plant Cell Technology

Address: 836 South 100 East, Smithfield UT 84335

Telephone: 435.534.8700

Emergency Contact, US: CHEMTREC 800.424.9300 (24/7)

Emergency Contact, International: CHEMTREC 703.527.3887 (24/7)

Recommended Use: For research and laboratory use only.

Restrictions on Use: This product is intended for research and laboratory use only. This product is not to be used as human or animal therapeutics, cosmetics, pesticidal products, food additives, or household chemicals.

2. Hazards Identification

Classification of the Substance or Mixture

GHS Classification:

H319 – Serious Eye Damage (Category 2A)

H360 – Reproductive Toxicity (Category 1A, 1B)

GHS Label Elements, Including Precautionary Statements

Signal Word: Danger

Hazard Statements:

H319 – Causes serious eye irritation.

H360 – May damage fertility or the unborn child

Precautionary Statements:

P201 – Obtain special instructions before use.

P202 – Do not handle until all safety precautions have been read and understood.

P264 – Wash skin thoroughly after handling.

P280 – Wear protective gloves/eye protection/face protection.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 – IF exposed or concerned: Get medical advice/attention.

P337 + P313 – If eye irritation persists: Get medical advice/attention

P405 – Store locked up.

P501 – Dispose of contents/container to appropriate waste containers.

Pictograms:



3. Composition / Information on Ingredients

Synonyms: N/A

Formula: N/A

Molecular Weight: N/A

CAS-No: N/A

EC-No: N/A

Component	CAS Number	EC Number	Concentrations (%, w/w)	Classification
Boric Acid	10043-35-3	233-139-2	0.213%	Reproductive Toxicity: H360
Calcium Chloride, Anhydrous	10043-52-4	233-140-8	41.355%	Serious eye damage 2: H319
Copper (II) Chloride	7447-39-4	231-210-2	0.003%	Acute toxicity, oral 4; Acute toxicity, dermal 4; Skin irritation 2; Serious eye damage 1; Hazardous to aquatic environment, long-term 1: H302; H312; H315; H318; H410
Manganese Chloride, Tetrahydrate	13446-34-9	231-869-6	0.135%	Acute toxicity 4: H302
Zinc Chloride, Anhydrous	7646-85-7	231-592-0	0.008%	Acute toxicity, oral 4; Skin corrosion/irritation 1B; Serious eye damage 1; Hazardous to aquatic environment, acute 1; Hazardous to aquatic environment, long-term 1: H302; H314; H318; H400; H410

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 Exposure

If Swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical attention.

In Case of Skin Contact: Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

In Case of Eye Contact: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Ensure adequate flushing by separating the eyelids. Get medical attention if irritation persists.

If Inhaled: Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway. Get medical attention.

Most Important Symptoms and Effects, Both Acute and Delayed: The most important known symptoms and effects are described in Section 2 (Hazards Identification) and/or in Section 11 (Toxicological Information).

Recommendation for Immediate Medical Care and Special Treatment Needed: No Data Available

5. Firefighting Measures

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media: No Data Available

Special Protective Equipment and Precautions for Firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Special Hazards Arising from the Substance or Mixture: Boron oxides, Hydrogen chloride gas, Calcium oxides, Carbon oxides, Nitrogen oxides, Sodium oxides, Iron oxides, Sulfur oxides, Magnesium oxide, Potassium oxides, Phosphorus oxides

Additional Information: No Data Available

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. See Section 2 (Hazards Identification) for more information.

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.

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. For precautions see section 2.

Conditions for Safe Storage: Keep in a tightly closed container and store in a cool, dry, and well-ventilated area.

Moisture sensitive.

Recommended Storage Temperature: 2° to 8°C

Incompatibilities: Potassium, Acid anhydrides, Strong oxidizing agents, Strong acids, Borane/boron oxides, Zinc, Calcium oxide, Methyl vinyl ether, Calcium chloride is attacked by bromine trifluoride**.**

8. Exposure Controls / Personal Protection

OSHA Permissible Exposure Limits (PELs): Follow all applicable federal, state, and local regulations in regard to Permissible Exposure Limits (PELs).

ACGIH Threshold Limit Values (TLVs): Follow all applicable federal, state, and local regulations in regard to Threshold Limit Values (TLVs).

Engineering Controls: Practice general industrial hygiene. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment (PPE):

> **Eye/Face Protection**: Face shield or appropriate safety glasses. Use equipment for eye protection tested and approved under appropriate standards.
>
> **Skin Protection**: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory Protection: Respiratory protection is not required. Where protection from nuisance levels of dusts or vapors is desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate standards.

Body Protection: Wear lab coat, gown, or coveralls to protect from exposure.

9. Physical and Chemical Properties

Appearance: White to Off-White Powder

Boiling Point, Initial: No Data Available

Boiling Range: No Data Available

Evaporation Rate: No Data Available

Flammability (Solid, Gas): No Data Available

Flammability Lower Limit: No Data Available

Flammability Upper Limit: No Data Available

Flash Point: No Data Available

Freezing Point: No Data Available

Melting Point: No Data Available

Melting Range: No Data Available

Odor: No Data Available

Odor Threshold: No Data Available

Partition Coefficient: No Data Available

pH: No Data Available

Relative Density: No Data Available

Solubility: Soluble in Water

Specific Gravity: No Data Available

Temperature, Auto-Ignition: No Data Available

Temperature, Decomposition: No Data Available

Vapor Density: No Data Available

Vapor Pressure: No Data Available

Viscosity: No Data Available

10. Stability and Reactivity

Reactivity: No Data Available

Chemical Stability: Stable under recommended storage conditions.

Possibilities of Hazardous Reactions: No Data Available

Conditions to Avoid: Moisture

Incompatible Materials: Potassium, Acid anhydrides, Strong oxidizing agents, Strong acids, Borane/boron oxides, Zinc, Calcium oxide, Methyl vinyl ether, Calcium chloride is attacked by bromine trifluoride

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions. – Boron oxides, Hydrogen chloride gas, Calcium oxides, Carbon oxides, Nitrogen oxides, Sodium oxides, Iron oxides, Sulfur oxides, Magnesium oxide, Potassium oxides, Phosphorus oxides

In the event of fire, see Section 5 (Firefighting Measures).

11. Toxicological Information

Toxicity: No Data Available

Carcinogenicity:

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: No Data Available

Immediate Effects of Exposure: No Data Available

Delayed Effects of Exposure: No Data Available

Chronic Effects of Short Term Exposure: No Data Available

Chronic Effects of Long Term Exposure: No Data Available

Symptoms Associated with Overexposure: No Data Available

Specific Target Organ Toxicity – Single Exposure: No Data Available

Specific Target Organ Toxicity – Repeated Exposure: No Data Available

Target Organs: None Identified

Medical Conditions Aggravated by Exposure: None Identified

Likely Routes of Exposure:

Eye Contact: Causes serious eye irritation.

Ingestions: No Data Available

Inhalation: No Data Available

Skin Contact: Data Available

NIOSH/RTECS: Not Available

12. Ecological Information

Toxicity: No Data Available

Persistence and Degradability: No Data Available

Bioaccumulative Potential: No Data Available

Mobility in Soil: No Data Available

Results of PBT and vPvB: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other Adverse Effects: No Data Available

13. Disposal Considerations

Disposal of Product: Dispose in accordance with all applicable federal, state, and local environmental regulations. See Section 2 (Hazards Identification) for additional guidelines in disposals.

Disposal of Packaging: Dispose of as unused product.

14. Transport Information

DOT (US):

Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

UN/NA number: N/A Class: N/A Packaging group: N/A Hazard Label: N/A

Reportable Quantity (RQ): N/A

Poison Inhalation Hazard: N/A

IMDG:

Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

UN number: N/A Class: N/A Packaging group: N/A Hazard Label: N/A

IATA:

Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

UN Number: N/A Class: N/A Packaging group: N/A Hazard Label: N/A

15. Regulatory Information

TSCA: Not Listed

SARA Title lll:

Section 302 (EHS) Ingredients: None

Section 304 (EHS/CERCLA) Ingredients: None

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

Section 313 Ingredients:

Copper dichloride – CAS-No. 7447-39-4	Revision Date 1993-02-16
Manganese dichloride tetrahydrate – CAS-No. 13446-34-9	Revision Date 2015-07-08
Zinc Chloride – CAS-No. 7646-85-7	Revision date: 1993-02-16

16. Other Information

Further Information: All chemicals may pose unknown hazards and should be used with caution. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Plant Cell Technology, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

HOP03-SDS Revision Change Summary:

Rev.	Date	CR#	Approved	Change description
00	29-May-25		C. Gallagher	New Document