Safety Data Sheet

1 Identification

Product Name: Murashige & Skoog Basal Salts

Catalog Number: MSP42

Company: Caisson Laboratories

Address: 836 South 100 East, Smithfield, UT 84335

Telephone: 435.755.7615

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Emergency Contact: CHEMTREC 800.424.9300 (703.527.3887)

Recommended Use: For research and laboratory use only.

Restrictions On Use: This product is 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 Hazard(s) Identification

Classification of the Substance or Mixture

GHS Classification: H402-Acute Aquatic Toxicity (Category 3), H412-Chronic Aquatic Toxicity (Category 3), H319-Eye Irritation (Category 2A), H272-Oxidizing solids (Category 3), H361-Reproductive toxicity (Category 2), H315-Skin irritation (Category 2), H412-Specific target organ toxicity-single exposure (Category 3)

GHS Label elements, including precautionary statements

Signal Word: Warning

Hazard Statements

H272 - May intensify fire; oxidizer.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

H361 - Suspected of damaging fertility or the unborn child.

H412 - Harmful to aquatic life with long-lasting effects.

Precautionary Statements

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

P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P220 - Keep/Store away from clothing/combustible materials.

P221 - Take any precaution to avoid mixing with combustibles.

P261 - Avoid breathing dust.

P264 - Wash skin thoroughly after handling.

P271 - Use only in a well-ventilated area.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

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.

P332 + P313 - If skin irritation occurs: Get medical advice/attention.

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

P362 - Take off contaminated clothing and wash before reuse.

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistand foam to extinguish.

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

P501 - Dispose of contents/container to an approved waste disposal plant.

Pictograms:

3 Composition / Information on Ingredients

Component	CAS Number	EC Number	Concentrations (%)	Classification
Potassium Nitrate	7757-79-1	229-347-8	30 - 50	Oxidizing Solid 3; Aquatic Acute 3; Aquatic Chronic 3; H272, H412
Ammonium Nitrate	6484-52-2	231-818-8	30 - 50	Oxidizing Solid 3; Skin Irritation 2; Eye Irritation 2A; STOT SE 3; H272, H315, H319, H335
Calcium Chloride, Anhydrous	10043-52-4	233-140-8	5 - 10	Eye Irritation 2A; H319
Boric Acid	10043-35-3	233-139-2	0 - 1	Reproductive Toxicity 2; H361

4 First-Aid Measures

General advice: Seek medical attention. Show this data sheet to the doctor in attendance. Move out of dangerous area.

Route of Exposure

If swallowed: If swallowed, rinse out mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.

In case of skin contact: Wash affected area with soap and plenty of water. Seek medical attention if irritation persists.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes. Hold eyelids open to ensure complete rinsing of the eye. Seek medical attention if irritation persists.

If inhaled: If inhaled, move victim to fresh air. If not breathing give artificial respiration. Seek medical attention.

Most important symptoms and 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.

Special protective equipment and precautions for fire-fighters: Wear self-contained breathing apparatus and protective clothing.

Special hazards arising from the substance or mixture: May emit toxic fumes under fire conditions.

Additional Information: Use water spray to cool unopened containers.

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.

Methods and material for 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

Precautions for safe handling: Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Keep away from combustible materials. Keep away from heat and sources of ignition. Provide appropriate exhaust ventilation at places where dust may be formed. 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.

Recommended storage temperature: 2 to 8 °C

Incompatibilities: Strong oxidizing agents.

8 Exposure Controls / Personal Protection

OSHA Permissable Exposure Limits (PELs): Manganese Sulfate, Monohydrate: 5 mg (Mn)/m3; Sodium Molybdate(VI), Dihydrate: 5 mg (Mo)/m3

ACGIH Threshold Limit Values (TLVs): Sodium Molybdate(VI), Dihydrate: 5 mg (Mo)/m3

Engineering controls: Handle in accordance to general industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Personal Protective Equipment (PPE)

Eye/face protection: Wear chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin protection: Wear rubber gloves.

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.

Body protection: Lab coat, gown, or coveralls.

9 Physical and Chemical Properties

Appearance: Off-White to Yellow Powder

pH: 3.5 – 4.5

Solubility: Soluble in Water

Specific Gravity: No data available

Melting Range: No data available

Odor: No data available

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

Flash Point: No data available

Flammability (Solid, gas): No data available

Flammability Upper/Lower Limits: No data available

Partition Coefficient: n-octanol/water: No data available

Vapor Density: No data available

Vapor Pressure: No data available

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

10 Stability and Reactivity

Reactivity: No data available

Chemical stability: Stable under normal conditions of use

Possibilities of hazardous reactions: No data available

Conditions to avoid: No data available

Incompatible materials: Strong reducing agents, strong acid, finely powered metals

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: No data available

Carcinogenicity

NTP: No

IARC: No

OSHA: No

Reproductive toxicity: No data available

Symptoms associated with overexposure: Irritation, sneezing, gastrointestinal upset

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Target Organs: Blood and central nervous system.

Medical conditions aggravated by exposure: No data available

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

NIOSH/RTECS: Not listed

12 Ecological Information

Toxicity: No data available

Persistance 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.

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 III

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: No

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: No

16 Other Information

HMIS Rating

Health hazard: 2

Chronic health hazard: *

Flammability: 0

Physical hazard: 2

NFPA Rating

Health hazard: 2

Fire hazard: 0

Reactivity: 2

Special Hazard: OX

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, Caisson Laboratories, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

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