

Safety Data Sheet

Murashige & Skoog Salt Base, Modified, w/Minimal Organics

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Murashige & Skoog Salt Base, Modified, w/Minimal Organics
Recommended Use: Science education applications
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING



May intensify fire; oxidizer. Causes serious eye irritation. Harmful to aquatic life.

GHS Classification:

Serious Eye Damage/Eye Irritation Category 2A, Oxidizing Liquid Category 3, Hazardous to the aquatic environment - Acute Category 3

Acute Toxicity Dermal Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Potassium nitrate	7757-79-1	42.85
Ammonium Nitrate	6484-52-2	37.21
Iron (III) Sodium EDTA	15708-41-5	0.83
Manganese (II) Sulfate, Monohydrate	10034-96-5	0.38
Boric Acid	10043-35-3	0.14
Potassium Iodide	7681-11-0	0.02
Also contains trace amounts of Cobalt Chloride, Hexahydrate (7791-13-1); Cupric Sulfate, Pentahydrate (7758-99-8); Sodium Molybdate(VI), Dihydrate (10102-40-6) {EMSFORM_03SDS_COMP_NOTE}		

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.

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Hazardous Combustion Products:

Potassium Oxide, Sodium Oxides, Sulfur Oxides, Metal Oxides, , Carbon oxides, Metal Oxides,

Section 6

Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Ventilate the contaminated area. Remove soiled clothing and launder before reuse. Isolate area. Keep unnecessary personnel away. Avoid the generation of dusts during clean-up. Absorb the liquid and scrub the area with detergent and water. Pick up wash liquid with additional absorbent and place in a disposable container. Do not flush spill to drain. Vacuum or sweep up material and place in a disposal container Vacuum or sweep up material and place in a disposal container Gather and store in a sealed container pending a waste disposal evaluation.

Section 7

Handling and Storage

Handling:

Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep/Store away from clothing/.../combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Keep container tightly closed in a cool, well-ventilated place. Do not breathe gas/fumes/vapor/spray. Avoid contact with skin and eyes.

Storage:

Keep container tightly closed in a cool, well-ventilated place.

Storage Code:

Green - general chemical storage

Section 8

Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Iron (III) Sodium EDTA	1 mg/m3 TWA (as Fe)	N/A	N/A	N/A
Manganese (II) Sulfate, Monohydrate	0.02 mg/m3 TWA (as Mn, listed under respirable fraction); 0.1 mg/m3 TWA (as Mn)	N/A	N/A	N/A
Boric Acid	2 mg/m3 TWA (inhalable fraction, listed under Borate compounds, inorganic)	6 mg/m3 STEL (inhalable fraction, listed under Borate compounds, inorganic)	N/A	N/A
Potassium Iodide	0.01 ppm TWA (inhalable fraction and vapor)	N/A	N/A	N/A

Control Parameters

Engineering Measures:

No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

Natural latex,, Natural rubber, Neoprene, Nitrile, Polyvinyl chloride

Section 9

Physical Data

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Formula: This product is a mixture.
Molecular Weight:
Appearance: White to off-white Powder
Odor: None
Odor Threshold: No data available
pH: 3.5 - 4.5
Melting Point: 170 C
Boiling Point: 210 C
Flash Point: 210 C
Flammable Limits in Air: No data available

Vapor Pressure: No data available
Evaporation Rate (BuAc=1): No data available
Vapor Density (Air=1): No data available
Specific Gravity: No data available
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: No data available

Section 10

Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Metals (powdered), Strong reducing agents, Strong acids, Organic Compounds
Hazardous Decomposition Products: Metal Oxides,, Carbon oxides, Metal Oxides, , Sulfur Oxides, Sodium Oxides, Potassium Oxide
Hazardous Polymerization: Will not occur

Section 11

Toxicity Data

Routes of Entry: Ingestion., Inhalation and ingestion.
Symptoms (Acute): Impaired Kidney Function, Respiratory disorders, Cardiovascular system, N/A
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Potassium nitrate	7757-79-1	Oral LD50 Rat 3750 mg/kg Oral LD50 Rabbit 1901 mg/kg Oral LD50 Rat 3540 mg/kg		
Ammonium Nitrate	6484-52-2	Oral LD50 Rat 2217 mg/kg		
Iron (III) Sodium EDTA	15708-41-5	Oral LD50 Mouse 5 GM/KG Oral LD50 Rat > 5000 mg/kg	Dermal LD50 Rat > 5000 mg/kg	INHALATION LC50 Rat > 2.05 GM/M3
Boric Acid	10043-35-3	Oral LD50 Rat 2660 mg/kg		
Potassium Iodide	7681-11-0			

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Potassium nitrate	7757-79-1	Listed	Not listed	Not listed
Ammonium Nitrate	6484-52-2	Listed	Not listed	Not listed
Boric Acid	10043-35-3	Listed	Not listed	Not listed
Potassium Iodide	7681-11-0	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2, Toxic effects are amplified in infants., Thyroid
Chronic: Mutation data cited., Reproductive data cited., Not listed as a carcinogen by IARC, NTP or OSHA., Tumorigenic data cited., Reproductive systems

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Section 12

Ecological Data

Overview: Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.

Mobility: No data

Persistence: Dissolved into water

Bioaccumulation: No data

Degradability: No data

Other Adverse Effects: No data

Chemical Name
Potassium nitrate

CAS Number
7757-79-1

Eco Toxicity
Aquatic LC50 Mosquitofish (*Gambusia affinis*) = 22.5 MG/L
Aquatic EC50 (48h) Daphnia = 226 MG/L
48 HR EC50 DAPHNIA MAGNA 115 - 153 MG/L

Boric Acid
Potassium Iodide

10043-35-3
7681-11-0

Section 13

Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s): Not Determined

Section 14

Transport Information

Ground - DOT Proper Shipping Name:
Not regulated for transport by US DOT.

Air - IATA Proper Shipping Name:
Not regulated for air transport by IATA.

Section 15

Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Boric Acid	10043-35-3	No	No	No	No	No
Potassium Iodide	7681-11-0	No	No	No	No	No

California Prop 65: No California Proposition 65 ingredients

Section 16

Additional Information

Safety Data Sheet

Revised: 08/21/2018

Replaces: 06/15/2018

Printed: 08-25-2018

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health