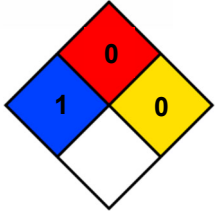




SAFETY DATA SHEET

HUMA GRO® Molybdenum



HMIS	
HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PPE	A

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: HUMA GRO® Molybdenum	Product # 310
GENERAL USE:	Used as a part of a plant nutrition program.
PRODUCT DESCRIPTION:	A clear to hazy, pale amber liquid having a slight characteristic odor.
SUPPLIER INFORMATION:	Bio Huma Netics, Inc. 1331 W Houston Avenue Gilbert, AZ 85233
For Additional SDS call: PHONE: (480) 961-1220	<div style="border: 1px solid black; padding: 5px; text-align: center;">EMERGENCY PHONE NUMBERS</div> CHEMTREC: (In the USA) 800-424-9300 (International) 703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

HAZARDS OVERVIEW: A clear to hazy, slightly too moderately alkaline, pale amber liquid having no characteristic odor. The liquid and mists may moderately irritate the eyes and possibly the skin on prolonged exposure. Inhalation of mists may irritate the entire respiratory tract, including the lungs.

CLASSIFICATION: HAZARD CATEGORY 3 - MILD SKIN IRRITATION

SIGNAL WORD: WARNING

HAZARD STATEMENT: H316 - WARNING - causes mild skin irritation

PRECAUTIONARY STATEMENT: P332+P313; If skin irritation occurs: Get medical attention/advice.

CLASSIFICATION: HAZARD CATEGORY 5 - MAY BE HARMFUL IF SWALLOWED

SIGNAL WORD: WARNING

HAZARD STATEMENT: H303 - WARNING – may be harmful if swallowed

PRECAUTIONARY STATEMENT: P312; Call a poison center/doctor/physician if you feel unwell

SECTION 3: COMPOSITION & INFORMATION ON INGREDIENTS

COMPONENT	CAS #	OSHA HAZARD	WT %	ACGIH		OSHA	
				TLV _(TWA)	STEL	PEL _(TWA)	STEL
Disodium Molybdate	7631-95-0	Moderate Eye Irritant; Slight Skin & Respiratory Irritant; May be Toxic by Ingestion or Inhalation	13 ± 1%	0.5 mg/m ³ (as Mo) Respirable Fraction (A3)	None	5 mg/m ³ (as Mo)	None
				NDA = No Data Available		N/A = Not Applicable	

SECTION 4: FIRST AID MEASURES

INHALATION:	If inhaled, immediately move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.
EYE CONTACT:	In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Remove contact lenses, if worn. Get medical attention.
SKIN CONTACT:	In case of contact, flush skin with plenty of clean running water. Remove contaminated clothing and shoes and wash before reuse. If irritation occurs and persists, get medical attention.
INGESTION:	If large quantities of this product are swallowed, call a physician immediately. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
NOTE TO PHYSICIANS:	Sodium Molybdate, Dihydrate solutions have a relatively low oral toxicity but may be irritating to the eyes, skin and mucous membranes. If ingested consideration should be given to careful endoscopy as stomach or esophageal irritation may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Treat exposure symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Flashpoint and Method:	This product does not flash.		
Flammable Limits (in air, % by volume)	Lower:	Not applicable	Upper: Not applicable
Autoignition Temperature:	Not applicable		
GENERAL HAZARD:	This product is a non-combustible, inorganic, slightly too moderately alkaline, aqueous solution. The Uniform Fire Code health hazard classification for this product is: Irritant . It may produce hazardous mists or hazardous decomposition products.		
FIRE FIGHTING INSTRUCTIONS:	EXTINGUISHING MEDIA:	Water, foam, CO ₂ or dry chemicals. Use a water fog or spray to cool the containers exposed to the heat of a fire.	
FIRE FIGHTING EQUIPMENT:	Fire fighters should wear full protective equipment, including self-contained breathing apparatus.		
HAZARDOUS COMBUSTION PRODUCTS:	When heated to dryness and decomposition, it emits toxic molybdenum oxides and sodium oxide with trace or ultra-trace toxic oxide amounts, of iron, manganese, calcium, magnesium, phosphorus, potassium, sulfur, zinc and carbon.		

SECTION 6: ACCIDENTAL RELEASE MEASURES

RELEASE TO LAND:	Wearing recommended protective equipment and clothing, dike spill using soil, sand or compatible commercial absorbent. Pick up bulk of liquid using pumps or vacuum truck for potential recovery and return to appropriate container. Absorb remaining liquid using sand or commercially absorbent material; dispose as non-hazardous solid waste. Flush spill area with water; collect rinsates for disposal or sewer, as appropriate.
RELEASE TO WATER:	Wear recommended protective equipment and clothing if contact with hazardous material can occur. Stop or divert water flow. Dike contaminated water and remove for disposal and/or treatment. As appropriate, notify all downstream users of possible contamination.

SECTION 7: HANDLING AND STORAGE

STORAGE TEMPERATURE:	Ambient	STORAGE PRESSURE:	Ambient
GENERAL:	Store in a cool, dry, well-ventilated, area away from incompatible materials and products. Protect eyes, skin and clothing from contact with product. Wear recommended personal protective equipment when handling this product. Do not breathe vapors or mists. Use with adequate ventilation. Do not take internally. Keep the containers tightly closed when not in use. Wash thoroughly after handling this product.		

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL MEASURES: Use a local or general mechanical exhaust ventilation system capable of maintaining emissions, in the work area, below those levels that may cause irritation.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

RESPIRATOR: For exposure above the ACGIH-TLV, OSHA-PEL or levels that may cause irritation, wear a NIOSH-approved full facepiece or half mask air-purifying cartridge respirator equipped with a good mist / particulate cartridge or supplied air. **Note:** Always consult the respirator manufacturer's data when determining the suitability of respiratory protective devices prior to use.

EYES: Wear chemical goggles (recommended by ANSI Z87.1-1979), unless a full facepiece respirator is worn. **Note:** Always consult the protective eyewear manufacturer's data when determining the suitability of protective eyewear prior to use.

GLOVES: Wear Butyl Rubber, Neoprene or Natural Rubber gloves. **Note:** Always consult the glove manufacturer's permeation data when determining the suitability of gloves prior to use.

CLOTHING & EQUIPMENT: Wear a Butyl Rubber, Neoprene or Natural Rubber apron when handling this product. An eye wash station and safety shower should be available in the work area. **Note:** Always consult the clothing/equipment manufacturer's permeation data when determining the suitability of clothing/equipment prior to use.

FOOTWEAR: Wear Butyl Rubber, Neoprene or Natural Rubber boots. **Note:** Always consult the footwear manufacturer's permeation data when determining the suitability of footwear prior to use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to hazy, pale amber	Bulk Density (pounds/ft³):	Not applicable
Physical State:	Liquid	Vapor Pressure:	No data available
Odor:	Slight, characteristic	Vapor Density (air=1):	No data available
Odor Threshold:	Not applicable	Evaporation Rate (n-Butyl Acetate=1):	Less than 1
Molecular Formula:	Mixture	VOC Content / Organic Matter:	Nil / 0.02%
Molecular Weight:	Not applicable	% Volatile:	No data available
Boiling Point:	Greater than 100° C. (212° F.)	Solubility in H₂O:	Soluble
Freezing/Melting Point:	Less than 0° C. (32° F.)	Octanol/Water Partition Coefficient:	No data available
Specific Gravity:	1.10 – 1.25 @ 20° C.	pH (as is):	8.0 - 9.0
Density (pounds/gallon):	Approximately 9.16	pH (1% solution):	No data available

SECTION 10: STABILITY AND REACTIVITY

GENERAL: This product is stable and hazardous polymerization will not occur.

CONDITIONS TO AVOID: Do not store this product below 50° F (10° C) or above 90° F (30° C)

INCOMPATIBLE MATERIAL: Strong oxidizers, strong alkali and caustics.

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to dryness and decomposition, it emits toxic molybdenum oxides and sodium oxide with trace or ultra-trace toxic oxide amounts, of iron, manganese, calcium, magnesium, phosphorus, potassium, sulfur, zinc and carbon.

SENSITIVITY TO MECHANICAL IMPACT: This product is not sensitive to mechanical impact.

SENSITIVITY TO STATIC DISCHARGE: This product is not sensitive to static discharge.

SECTION 11: TOXICOLOGICAL INFORMATION

Components:	<u>Disodium Molybdate, Dihydrate</u>
Eye Contact:	Rabbit: Mild Irritant
Skin Contact:	Rabbit: Not an Irritant
Oral Rat LD₅₀:	2,810 mg/kg
Dermal Rabbit LD₅₀:	No data available
Inhalation Rat LC₅₀:	No data available
Human Data:	No data available
Other Toxicological Data:	Intraperitoneal Mouse LD ₅₀ : 257 mg/kg
Carcinogenicity:	No data available
Teratogenicity:	Intravenous Mouse TD _{Lo} : 968 mg/kg (8 Day pregnant)
Mutagenicity:	No data available
Synergistic Products:	None reported
Target Organs:	Eyes, Skin & Mucous membranes
Medical Conditions Aggravated By Exposure:	Skin or Respiratory disorders

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

This product is soluble in water. No specific environmental fate information is available. This product is not expected to significantly affect the pH of water.

ENVIRONMENTAL CONSIDERATIONS:

The aquatic toxicity for this product has not been determined.

SECTION 13: DISPOSAL CONSIDERATIONS

RCRA 40 CFR 261 CLASSIFICATION: Non-RCRA Hazardous Waste (United States)

U.S. EPA WASTE NUMBER/DESCRIPTION: Not Applicable

If this product is disposed of as shipped, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D. As a non-hazardous liquid waste, it should be disposed of in accordance with all local, state and federal regulations. Consult state or local officials for proper disposal method.

SECTION 14: TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME:	Not DOT Regulated (United States)		
	Hazard Class: N/A	UN Number: N/A	Packing Group: N/A
	Primary Label: None	Subsidiary Label(s): None	
	Primary/Subsidiary Placards: None		
DOT Reportable Quantity (RQ):	Not listed	RQ for Product:	No
Marine Pollutant:	No		
2012 North American Emergency Response Guidebook No.:	N/A		
TDG PROPER SHIPPING NAME:	NOT RESTRICTED		
	Hazard Class: N/A	UN Number: None	Packing Group: N/A
	Primary Label: None	Subsidiary Label(s): None	
	Primary/Subsidiary Placards: None		
TDG Reportable Quantity (RQ): *	Not applicable		
TDG Schedule XII:	Not listed		
Regulated Limit (RL): **	Not listed	RL for Product:	N/A
Other Shipping Information:	None		

* Canadian Transportation of Dangerous Goods Regulations (TDGR), Part IX, Table I, Quantities or levels for Immediate Reporting: releases of reportable quantities, RQ, that meet the definition of a "dangerous occurrence" (a threat to life, health, property, or the environment) must be reported to the appropriate authorities as outlined in TDGR 9.13(1) and 9.14(1). ** Reporting to Environment Canada is required for any releases exceeding the regulated limits, RL, of 9.2 materials (primary or secondary). The regulated limits are found in Schedule XIII of the TDGR.

SECTION 15: REGULATORY INFORMATION

COMPONENTS:	<u>Disodium Molybdate</u>
OSHA Target Organs:	Eyes, Skin & Mucous membranes
Carcinogenic Potential:	
Regulated by OSHA:	No
Listed on NTP Report:	No
Listed by IARC:	No
IARC Group:	Not applicable
ACGIH Appendix A:	Not listed
A1 Confirmed Human:	Not applicable
A2 Suspected Human:	Not applicable

U.S. EPA Requirements

Release Reporting

CERCLA (40 CFR 302)

Listed Substance:	Not listed
Reportable Quantity:	Not applicable
Category:	Not applicable
RCRA Waste No.:	Not applicable

Unlisted Substance:	Not applicable
Reportable Quantity:	Not applicable
Characteristic:	Not applicable
RCRA Waste No.:	Not applicable

SECTION 15: REGULATORY INFORMATION (Continued from Page 4)

COMPONENTS: Disodium Molybdate

SARA TITLE III

Section 302 & 303 (40 CFR 355):

Listed Substance: Not listed
Reportable Quantity: Not applicable
Planning Threshold: Not applicable

Section 311 & 312 (40 CFR 370):

Hazard Categories (product): **Fire:** N **Sudden Release of Pressure:** N **Reactive:** N **Acute Health:** Y **Chronic Health:** N
Planning threshold: 10,000 pounds

Section 313 (40 CFR 372):

Listed Toxic Chemical: Not listed
Reporting Threshold: Not applicable

U.S. TSCA Status

Listed (40 CFR 710): Yes

State Regulations

State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65):

Carcinogen: No
Reproductive Toxin: No

Other Regulations

State Right To Know Laws: None Known

Canadian Regulations

Product Information:

Controlled Product: Yes
WHMIS Hazard Symbols: Material Causing Other Toxic Effects
WHMIS Class & Division: D.2B

Ingredient Information:

IDL Substance: Yes
DSL or NDSL Lists: DSL

SECTION 16: OTHER INFORMATION

EPA Registration number: Not applicable

Approved Product Uses: Used as a part of a plant nutrition program.

Special Notes:

This product is not manufactured, or formulated to contain substances, which the State of California has found to cause cancer and/or birth defects or other reproductive harm. However, as it contains mined minerals, this product may contain trace (parts per million) or ultra-trace (parts per billion) of elements known to the State of California to cause cancer, birth defects or other reproductive harm.

Special Instructions:

Store Molybdenum in a cool, dry, well ventilated, area away from incompatible materials and products. Always add this product to water with adequate mixing to ensure a uniform solution.

SDS Revision Information: Revised Date: 9/08/2020

SDS Distributed by: Bio Huma Netics, Inc.

Prepared By: Frank S. Pidgeon, Sr. EHSS Director

Date Prepared: October 21, 2014

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