

SAFETY DATA SHEET

Vantage Ag - Molybdenum

Issue Date: Oct 15, 2024

Revision Date: Oct 15, 2024

Version 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name Vantage Ag - Molybdenum

Other means of identification

SDS#

Details of the supplier of the safety data sheet

Company Name Vantage Ag
#65, 7665 - 209th Street
Langley, BC.
V2Y 0V2

Emergency telephone number

Emergency Telephone 778-919-3370

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Not classified
Acute toxicity - Dermal	Not classified
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Label elements

Emergency Overview

Danger

Hazard statements

Causes severe skin burns and eye damage



Appearance Transparent and Yellow **Physical state** Liquid **Odor** Odorless

Precautionary Statements - Prevention

Obtain special instructions before use

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

Use personal protective equipment as required

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

Specific Treatment (See Section 4 on the SDS)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a POISON CENTER or doctor/physician

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other Information**

- Very toxic to aquatic life with long lasting effects
- Very toxic to aquatic life

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Molybdate (MoO42-), sodium, hydrate (1:2:2), (T-4)-	10102-40-6	10-15%	*
Sulfuric Acid	7664-93-9	1-5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**First aid measures**

General advice Immediate medical attention is required.

Skin Contact Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Eye contact Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

Inhalation Remove to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

The product causes burn of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gasses and vapors. In the event of fire and/or explosion do not breathe fumes.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material. Clean contaminated surface thoroughly. Dike far ahead of liquid spill for later disposal. Take up mechanically, placing in appropriate containers for disposal. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Incompatible materials Incompatible with strong acids and bases. Incompatible with oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines Exposure guidelines noted for ingredient(s).

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Molybdate (MoO ₄ ²⁻), sodium, hydrate (1:2:2), (T-4)	N/A	-	-
Sulfuric Acid 7664-93-9	TWA: 0.2 mg/m ³ thoracic particulate matter	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers, Eyewash stations & Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid

Appearance Transparent

Color Yellow

Odor Odorless

Odor threshold No Information available

Property Values Remarks • Method

pH	1.1
Specific Gravity	No Information available
Viscosity	No Information available
Melting point/freezing point	Above 200°F
Flash point	>= 100 °C / 212 ° F (at 760 mm Hg)
Boiling point / boiling range	No Information available
Evaporation rate	No data available
Flammability (solid, gas)	
Flammability Limits in Air	No Information available
Upper flammability limit:	No Information available
Lower flammability limit:	No Information available
Vapor pressure	No Information available
Vapor density	Complete
Water solubility	No Information available
Partition coefficient	No Information available
Autoignition temperature	No Information available
Decomposition temperature	

Other Information

Density Lbs/Gal	9.17
VOC Content (%)	<2 None

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Exposure to air or moisture over prolonged periods.

Incompatible materials

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information The primary effects and toxicity of this material are due to its corrosive nature.

Inhalation Causes burns.

Eye contact Corrosive to the eyes and may cause severe damage including blindness.

Skin Contact The product causes burn of eyes, skin and mucous membranes.

Ingestion Causes burns.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Molybdate (MoO ₄ ²⁻), sodium, hydrate (1:2:2), (T-4)-	-	-	-
Sulfuric Acid 7664-93-9	= 2140 mg/kg (Rat)	-	= 510 mg/m ³ (Rat) 2 h

Information on toxicological effects

Symptoms No Information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Corrosivity Causes burns. Extremely corrosive and destructive to tissue. Risk of serious damage to eyes.

Sensitization No Information available.

Germ cell mutagenicity No Information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sulfuric Acid 7664-93-9	A2	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No Information available.

STOT - single exposure No Information available.

STOT - repeated exposure No Information available.

Chronic toxicity Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure.

Possible risk of irreversible effects. May cause adverse liver effects.

Target organ effects EYES, Kidney, Liver, Respiratory system, Skin, Teeth.

Aspiration hazard No Information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 8,513.00 mg/kg

ATEmix (inhalation-dust/mist) 8.85 mg/kg

12. ECOLOGICAL INFORMATION

This product contains a chemical which is listed as a severe marine pollutant according to DOT.

Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Molybdate (MoO ₄ ²⁻), sodium, hydrate (1:2:2), (T-4)-	-	-	-
Sulfuric Acid 7664-93-9	-	500: 96 h Brachydanio rerio mg/L LC50 static	29: 24 h Daphnia magna mg/L EC50

Persistence and degradability

No Information available.

Bioaccumulation

No Information available.

Other adverse effects No Information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Molybdate (MoO ₄ ²⁻), sodium, hydrate (1:2:2), (T-4)-	N/A
Sulfuric Acid 7664-93-9	Toxic Corrosive

14. TRANSPORT INFORMATION

The basic description below is specific to the container size. This information is provided for at a glance DOT information. Please refer to the container and/or shipping papers for the appropriate shipping description before tendering this material for shipment. For additional information, please contact the distributor listed in section 1 of this SDS.

DOT

UN/ID No. 3264

Proper shipping name Corrosive Liquid, Acidic, Inorganic, N.O.S. (Sulfuric Acid) **Hazard Class** 8

Packing Group III

Marine pollutant n/a

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL/NDSL Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Sulfuric Acid - 7664-93-9	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes

Chronic Health Hazard Yes

Fire hazard No

Sudden release of pressure hazard No

Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric Acid 7664-93-9	1000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sulfuric Acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains chemicals known to the state of California to cause cancer, or birth defects or other reproductive harm

Chemical Name	California Proposition 65
Sulfuric Acid - 7664-93-9	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Sulfuric Acid 7664-93-9	X	X	X

U.S. EPA Label Information**EPA Pesticide Registration Number** Not Applicable**WHMIS Hazard Class**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

D2A - Very toxic materials

D2B - Toxic materials

E - Corrosive material

**16. OTHER INFORMATION****NFPA** Health hazards 3 Flammability 0 Instability 0 Physical and Chemical Properties Yes**HMIS** Health hazards 3 Flammability 0 Physical hazards 0 Personal protection X**Issue Date** Oct 15, 2024**Revision Date****Revision Note**

No Information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet