

# Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

[www.kimleigh.com](http://www.kimleigh.com)

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

**Trade name:** Molybdenum Metalin 250

**Product range:**



## SECTION 1: Chemical Product and Company Identification

### 1.1 Product identifier:

**Product name**

: Molybdenum Metalin 250

**Chemical Family**

: Agricultural liquid micronutrient

### 1.2 Relevant identified uses of the substance or mixture and uses advised against:

Molybdenum micronutrient for horticultural and agricultural use.

### 1.3 Details of the supplier of the safety data sheet:

Kimleigh Chemicals SA (Pty) Ltd.

11 Jasper van der Westhuizen Street, Potchindustria, Potchefstroom, North West Province, 2531, South Africa.

Tel no: +27 (18) 293-1028

Fax no: +27 (18) 294-4079

Web : [www.kimleigh.com](http://www.kimleigh.com)

E-mail : [sheq@kimleigh.co.za](mailto:sheq@kimleigh.co.za)

### 1.4 Emergency telephone number:

Kimleigh Chemicals SA (Pty) Ltd: Tel: +27 (18) 293-1028

## SECTION 2: Hazards Identification

### 2.1. Classification of the substance:

Classification according to the Global Harmonized System (GHS):	Code:	Pictogram:	Signal word:
<b>Health hazards:</b> Harmful if swallowed. Causes skin irritation. Harmful if inhaled. May cause respiratory irritation.	H302 H315 H332 H335	GHS07 	Warning

### Precautionary statements:

P201

Obtain special instructions before use.

P202

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

P260

Do not breathe spray.

P264

Wash hands thoroughly after handling.

P270

Do not eat, drink, or smoke when using this product.

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P280	Wear protective gloves/eye protection/face protection.
P281	Use personal protective clothing as required.
P330	Rinse mouth.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local / regional / national / international regulations.
P301 + P312	If SWALLOWED: call a poison center or doctor/physician if you feel unwell.
P302 + P352	If on skin – wash with plenty of soap and water.
P308 + P313	If exposed or concerned: Get medical advice/attention.
P332 + P313	If skin irritation occurs: Get medical advice/attention.

## 2.2 Potential health effects:

**Routes of entry:** Eye contact, inhalation, ingestion, absorbed through skin.

**Eyes:** May cause eye irritation and local inflammation.

**Skin:** May cause mild skin irritation.

**Inhalation:** May cause mild irritation to respiratory tract.

**Ingestion:** It may cause mild irritation and/or a burning sensation in the mouth, pharynx, esophagus, and gastrointestinal tract.

## SECTION 3: Composition/Information on Ingredients

### 3.1 Mixture:

**Mixture name:** Molybdenum Metalin 250

**Appearance:** Yellow coloured, water soluble solution

**Ingredients:** Molybdenum (Mo): 250 g/l m/v (155 g/kg m/m)

## SECTION 4: First Aid Measures

### 4.1 Description of first aid measures

#### General information

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### Following inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

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## Following skin contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation persists.

## Following eye contact

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

## Following ingestion

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Rinse mouth with water. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

## SECTION 5: Firefighting Measures

**5.1 Products of combustion:** Oxides of molybdenum and phosphorous.

### Explosion hazards in presence of various substances:

Risk of explosion of the product in the presence of static discharge: NO

Risk of explosion of the product in presence of mechanical impact: NO

**Fire hazards in presence of various substances:** Not applicable.

**5.2 Firefighting media and instructions:**

**Small fire:** Use dry chemicals, CO<sub>2</sub>, alcohol-resistant foam or water spray.

**Large fire:** Water spray or fog, alcohol-resistant foam. Use water spray to cool containers.

**Protective clothing (Fire):** Wear NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

**Special remarks on fire hazards:** Prevent fire-fighting water from entering surface water groundwater.

**Special remarks on explosion hazards:** Not available.

## SECTION 6: Accidental Release Measures

**6.1 Personal Protection:** Respiratory: Respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands: Nitrile rubber gloves

Eyes: Splash goggles

Body: Full suit

Feet: Safety boots

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## 6.2 Small spill and leak:

Use appropriate tools and adsorptive material to contain and adsorb the spilled solution and dispose of in a convenient waste disposal container.

## 6.3 Large spill and leak:

Use appropriate tools and personal protective equipment. Stop leak without risk. Do not touch spilled material. Prevent entry into sewers, basements, or confined areas; dyke if needed. Absorb with liquid binding material such as sand, universal binders. Call for assistance on disposal.

## 6.4 Environmental protection:

Do not allow to enter sewerage system.

## SECTION 7: Handling and Storage

### 7.1 Precautions for safe handling

#### Protective measures

##### Advice on safe handling

Handle with care in accordance with good industrial hygiene and safety practices. Do not swallow or inhale spray, mist or vapours. Avoid contact with eyes and skin and any form of ingestion. Wear suitable protective clothing such as overalls, boots, rubber gloves, goggles, nose and mouth protection and wash contaminated clothing daily. Wash thoroughly with soap and water after use or accidental skin contact. Do not eat, drink or smoke during use. Avoid contamination of food, foodstuffs, eating utensils and drinking water. Do not discharge residues or any of the product into rivers, dams and canals.

##### Advice on safe storage

Store in a cool, dry and well-ventilated place, away from food, foodstuffs, and incompatible substances. Close container tightly after opening. Store under lock and key and keep out of reach of children, uninformed persons and animals. Minimise mist generation. Access to water and eye wash facility should be available.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control parameters

#### Engineering controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

#### Personal Protection:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the substance handled.

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- Respiratory:** Dust respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Hands:** Nitrile rubber gloves.
- Eyes:** Splash goggles.
- Body:** Full acid resistant suit.
- Feet:** Safety boots.

### Hygiene measures:

Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, and using the lavatory and at the end of the day. Follow good industrial hygiene practice. Remove and wash contaminated clothing.

## SECTION 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

*Appearance:*

- Physical state:** Liquid
- Form:** Solution
- Colour:** Yellow
- Odour:** Odourless

### 9.2 Other information:

- pH (50 g/l H<sub>2</sub>O sol.):** 3.8
- Freezing point:** < 0°C
- Boiling point:** > 100°C
- Flash point:** Not available
- Vapour density:** Not available
- Flammability/explosive limits:** Not available
- Relative density (20°C):** ± 1.61 kg/l (water = 1)
- Solubility in water (20°C):** Water-soluble

## SECTION 10: Stability and Reactivity

### 10.1 Reactivity and stability

The product is stable under recommended conditions of storage and use.

### 10.2 Hazardous decomposition products

Oxides of molybdenum and phosphorous.

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## 10.3 Incompatibility with various substances

Strong oxidising agents, acids, and bases. Violent reaction with interhalogens (e.g. bromine pentafluoride, chlorine trifluoride). Incandescent reaction with hot sodium, potassium or lithium.

## 10.4 Conditions of instability

High temperatures. Store away from strong oxidising agents, acids, bases, and alkali metals.

## 10.5 Hazardous polymerization

Will not occur.

## SECTION 11: Toxicological Information

### 11.1 Information on toxicological effects:

	Effect dose / concentration	Value(s)	Species
Acute oral toxicity (Calculated)	LD50	2,250 mg/kg	Rat

### 11.2 Other information:

#### Chronic effects on humans:

**Carcinogenic effects:** Not suspected.

**Mutagenic effects:** Not available.

**Teratogenic effects:** Not suspected.

#### Acute effects on humans:

**Eyes:** Mild eye irritant.

**Skin:** Mild skin irritant. Skin inflammation is characterised by itching, scaling, reddening, or occasional blistering.

**Inhalation:** May be harmful if inhaled. Inhalation may cause mild irritation to respiratory tract. Symptoms can include irritation of nasal passages, sore throat, shortness of breath, and coughing.

**Ingestion:** May be harmful if swallowed. It may cause mild irritation and/or a burning sensation in the mouth, pharynx, oesophagus, and gastrointestinal tract.

**Toxicity to reproductive system:** Tests on laboratory animals for reproductive effects are cited in Registry of Toxic Effects on Chemical Substances (RTECS).

## SECTION 12: Ecological Information

### 12.1 Ecotoxicity:

Molybdenum occurs naturally in some fresh- and seawater, but may become toxic in large quantities.

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## 12.2 Phytotoxicity:

Molybdenum is an essential micronutrient for healthy plant growth but can be harmful in large quantities to Molybdenum sensitive plants.

## 12.3 Mobility:



Do not allow to enter water or soil. Product is water-soluble.

## SECTION 13: Disposal Considerations

### 13.1 Waste disposal:

Consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal site (TDS) to assure compliance with all current, local, national, and governmental regulations.

## SECTION 14: Transport Information

	Land transport (ADR/RID)	Inland waterway transport (ADN)	Marine transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN No.	3082	3082	3082	3082
14.2 UN Proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Molybdenum Metalin 250)	Environmentally hazardous substance, liquid, n.o.s. (Molybdenum Metalin 250)	Environmentally hazardous substance, liquid, n.o.s. (Molybdenum Metalin 250)	Environmentally hazardous substance, liquid, n.o.s. (Molybdenum Metalin 250)
14.3 Transport hazard class(es)	<b>Class 9</b>			
Hazard label(s)	 GHS07			
14.4 Packing group	III	III	III	III
14.5 Transport label				

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**Product range:**  Growing with





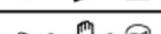


















## SECTION 15: Regulatory Information

### 15.1 Republic of South Africa Regulations:

National Water Act 36 of 1998. Occupational Health and Safety Act, 1993. Environmental Conservation Act 73 of 1989. Hazardous Substances Act, 1973. Provincial Ordinances and Local By-laws.

## SECTION 16: Other Information

### 16.1 Hazardous material identification system:

HAZARD INDEX		PERSONAL PROTECTION INDEX	
4	Severe Hazard	A	
3	Serious Hazard	B	
2	Moderate Hazard	C	
1	Slight Hazard	D	
0	Minimal Hazard	E	
* An asterisk or other designation corresponds to additional information on a data sheet or separate chronic effects notification		F	
HEALTH		G	
	0 1	H	
FLAMMABILITY		I	
	0	J	
PHYSICAL HAZARD		K	
	0	X	Consult your supervisor or S.O.P. for "Special" handling directions
Personal Protection		A	
	F	n	
		o	
		p	
		q	
		r	
		s	
		t	
		u	
		w	
		y	
		z	

### 16.2 Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with the International Organization for Standardization.

### 16.3 Disclaimer:

KIMLEIGH CHEMICALS SA (Pty) Ltd provides the information contained herein in good faith but does not assume any liability whatsoever for its accuracy or completeness. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.