

**SECTION 1 - PRODUCT & COMPANY IDENTIFICATION**

ARYSTA LifeScience South Africa (Pty) Ltd  
Co. Reg. No.: 2009/019713/07  
7 Sunbury Office Park,  
Off Douglas Saunders Drive,  
La Lucia Ridge, South Africa, 4019

Tel: 031 514 5600  
Fax: 031 514 5611

e-mail: [info@arysta.co.za](mailto:info@arysta.co.za)  
Web address: [arystalifescience.co.za](http://arystalifescience.co.za)

Product Name: SODIUM MOLYBDATE WS  
Product Use: Group I Fertilizer  
Creation Date: October 2007  
Revision Date: March 2011

24 Hr Emergency Number: 082 771 2712  
In case of Poisoning:  
Poison Information Centre 082 446 8946  
Tygerberg Hospital: (021) 931 6129  
Poison Emergency Enquiries (021) 689 5227  
In case of Spillage:  
HAZMAT: 0800 147 112

**SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS**

Common name: Sodium molybdate  
Chemical name: disodium molybdate, sodium molybdate  
CAS no: 7631-95-0  
Chemical family: Inorganic salt  
Chemical formula:  $\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$   
Mol. Wt: 241.94  
Use: To combat molybdenum deficiency in various crops. Can be applied as a seeddressing or as a foliar spray.  
Chemical composition: Molybdenum: 395 g/kg  
(100% Na-Molybdate crystalline powder)  
Formulation: Water soluble powder  
Symbol: Xi, N  
Indication of danger: Irritant, Environmentally hazardous substance  
Risk Phrases: R22, R36/37/38, R51

**SECTION 3 - HAZARD IDENTIFICATION**

Likely routes of exposure:  
Skin contact, ingestion and inhalation.  
Skin: Minimally toxic. May cause mild skin irritation.  
Eye contact: May cause mild eye irritation.  
Ingestion: Harmful.  
Inhalation: irritating to the mucous membranes and upper respiratory tract.

**SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS**

**Signs and Symptoms of Overexposure:**  
Symptoms may include coughing, shortness of breath. Can be route for absorption for soluble salts of molybdenum. Ingestion of large quantities causes severe distress, cramping, vomiting and hypertension.  
**Inhalation:**  
Remove source of contamination, or move victim to fresh air. Keep affected person warm and at rest. Treat symptomatically and supportively. If breathing is difficult, a qualified person should apply oxygen. Get medical attention if effects persist.  
**Skin contact:**  
Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with water and non-abrasive soap. Do not rub the skin. If irritation persists, seek medical advice.  
**Eye contact :**  
Immediately flush the eyes with clean, gently flowing water for 20 minutes, holding the eyelid(s) open. If irritation persists, seek medical advice.

**MATERIAL SAFETY DATA SHEET**

**Ingestion:**

Do not induce vomiting. Have victim rinse mouth thoroughly with water. Give large quantities of water to drink. Seek medical advice immediately showing container and label. Never give anything by mouth to an unconscious person.

**Advice to physician:**

There is no specific antidote. Treat symptomatically and supportively as and when required. Gastric lavage could be considered but not if victim is unconscious. Give oxygen if respiration is depressed.

**SECTION 5 - FIRE-FIGHTING MEASURES****Fire and explosion hazard:**

**None. Not flammable. Not explosive.**

**Extinguishing agents:**

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal.

**Fire fighting:**

Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

**Personal protective equipment:**

Fire may produce irritating or poisonous vapours, mists or other products of combustion (toxic metal fumes). Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)****Personal precautions:**

Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

**Environmental precautions:**

Do not allow entering drains or watercourses. Product may be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

**Occupational spill:**

For dry spills, shovel up and sweep up with damp earth or sand or other suitable absorbents, taking care not to raise a dust cloud. Place the material into a labelled, clean, dry container and cover for subsequent disposal; and store in a safe place to await proper disposal.

For liquid spills, soak up with damp earth or sand, or other non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal.

All contaminated cleaning materials should be placed in closable receptacles. Dispose of the containers in accordance with local regulations. Open burning or dumping of this material is prohibited. Do not flush spilled material into drains.

In situations where product comes in contact with water, contain contaminated water for later disposal. Do not contaminate water while cleaning equipment or disposing of wastes.

**SECTION 7 - HANDLING AND STORAGE REQUIREMENTS****Handling:**

Avoid contact with eyes, prolonged contact with skin, and inhalation of spray and fumes. Handle product with caution. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Operators should change and wash clothing after use. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storage:**

Store in its original, labelled and closed container in dry, cool, shaded, well-ventilated area. Do not store with other pesticides, strong oxidizers, seeds, foodstuffs and water supplies. Store away from incompatible substances. Keep out of reach of unauthorized persons, children and animals. Local regulations should be complied with.

**MATERIAL SAFETY DATA SHEET**

**SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION**

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

**PERSONAL PROTECTIVE EQUIPMENT:**

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

**Respirator:**

It is usually safe to use the product without a mask or respirator. If the product is used in dusty or confined conditions or spillage and fire conditions, a mask or respirator suitable for protection from dusts and mists of pesticides is adequate. Respirator is not required in the case of normal application procedure of the product.

**Clothing:**

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

**Gloves:**

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

**Eye protection:**

Wear safety goggles or face shield.

**Emergency eye wash:** Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White crystalline powder, with no odour.
<b>Bulk density:</b>	1000 kg/m
<b>Specific gravity:</b>	3.3 ± 0.05 g/cm <sup>3</sup>
<b>Solubility in water:</b>	Soluble in water.
<b>Flash point:</b>	None. Not applicable.
<b>pH:</b>	8.8 - 9.2
<b>Melting Point:</b>	687 °C

**SECTION 10 - STABILITY AND REACTIVITY****Stability:**

Stable under normal temperatures and storage conditions.

Avoid moisture, heat, ignition sources, high temperature.

**Incompatibility:**

Incompatible with strong oxidizing materials, alkali metals e.g. sodium and lithium. Avoid heat, flames, ignition sources and incompatibles.

**Hazardous Decomposition:**

Toxic metal fumes may form from when heated to decomposition.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

<b>Acute oral LD<sub>50</sub>:</b>	> 4000 mg/kg
<b>Acute dermal LD<sub>50</sub>:</b>	> 2000 mg/kg
<b>Inhalation:</b>	> 2080 mg/l (4hrs)
<b>Acute skin irritation:</b>	Harmful. Mild irritant.
<b>Acute eye irritation:</b>	Harmful. Mild irritant.
<b>Carcinogenicity:</b>	None of this product's components are listed.

**SECTION 12 - ECOLOGICAL INFORMATION**

Avoid washing excessive amount into streams and waterways.

**ECOTOXICOLOGY:**

May be toxic to aquatic organisms.

**MATERIAL SAFETY DATA SHEET**

**SECTION 13 - DISPOSAL CONSIDERATION****Pesticide disposal:**

Open dumping or burning of this fertilizer is prohibited. Waste resulting from the use of this product that cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Comply with local legislation applying to waste disposal.

**Container disposal:**

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

**SECTION 14 - TRANSPORT INFORMATION**

UN NUMBER: 3077

Road Transport ADR/IRD:

Class: 9

Packing group: III

Shipping name: Environmentally Hazardous Substance, Solid, N.O.S. (molybdenum, 395 g.kg)

**SECTION 15 - REGULATORY INFORMATION**

Symbol: Xi, N

Indication: Irritant, Environmentally Hazardous Substance.

**Risk phrases:**

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 51 Toxic to aquatic organisms.

**Safety phrases:**

S 2 Keep out of reach children.

S 3/9/49 Keep only in original container in a cool, well-ventilated place.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

**SECTION 16 - OTHER INFORMATION****Disclaimer:**

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

**MATERIAL SAFETY DATA SHEET**