

## SECTION 1: Identification

### 1.1. Identification

Product form	: Mixture
Product name	: MZ 'O'™
Other means of identification	: Seaweed-based fertilizer, for foliar spraying EC Fertilizer - Zinc-based solution (zinc sulfate)

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

Use of the substance/mixture	: Seaweed-based fertilizer, for foliar spraying.
Restrictions on use	: No additional information available

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

Arysta LifeScience North America, LLC  
15401 Weston Parkway, Suite 150  
Cary, NC 27513 - USA  
T 1-866-761-9397

### 1.4. Emergency telephone number

Emergency number	: Exposure calls (PROPHARMA): 1-866-303-6952 or +1-651-603-3432 (international) Spill calls (CHEMTREC) (Contract # CCN1779): +1-800-424-9300 or +1-703-527-3887 (international)
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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GHS-US classification

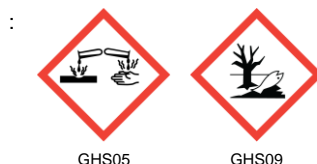
Eye Dam. 1 H318  
Aquatic Chronic 2 H411

Full text of hazard classes and H-statements : see section 16

### 2.2. Label elements

#### GHS-US labelling

Hazard pictograms (GHS-US)



GHS05

GHS09

Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	: H318 - Causes serious eye damage. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (GHS-US)	: P273 - Avoid release to the environment. P280 - Wear protective gloves, eye protection. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a doctor P391 - Collect spillage. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

**3.2. Mixtures**

Name	Product identifier	% (w/w)	GHS-US classification
Zinc sulphate heptahydrate	(CAS-No.) 7446-20-0	2.5 - 20	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

**SECTION 4: First aid measures****4.1. Description of first aid measures**

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Wash skin with mild soap and water. Remove contaminated clothing and shoes.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.

**4.2. Most important symptoms and effects, both acute and delayed**

- Symptoms/effects after skin contact : May cause moderate irritation.
- Symptoms/effects after eye contact : Causes serious eye damage.
- Symptoms/effects after ingestion : Like any product not designed to be ingested, this product may cause stomach distress if ingested in large quantities.

**4.3. Indication of any immediate medical attention and special treatment needed**

All treatments should be based on observed signs and symptoms of distress in the patient.

**SECTION 5: Firefighting measures****5.1. Extinguishing media**

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

**5.2. Special hazards arising from the substance or mixture**

- Fire hazard : Not flammable.
- Reactivity : No dangerous reactions known.

**5.3. Advice for firefighters**

- Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

- General measures : Avoid contact with skin and eyes.

**6.1.1. For non-emergency personnel**

- Protective equipment : Chemical goggles or safety glasses. In case of inadequate ventilation wear respiratory protection.
- Emergency procedures : Evacuate unnecessary personnel.

**6.1.2. For emergency responders**

- Protective equipment : Chemical goggles or safety glasses. Where excessive vapour, mist, or dust may result, use approved respiratory protection equipment.
- Emergency procedures : Ventilate area.

**6.2. Environmental precautions**

Avoid release to the environment. Do not discharge into drains or the environment. Prevent dispersion.

**6.3. Methods and material for containment and cleaning up**

- For containment : Absorb and/or contain spill with inert material, then place in suitable container. Never return spills to original container for re-use.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Take up in non-combustible absorbent material and shove into container for disposal.

**6.4. Reference to other sections**

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Precautions for safe handling : Avoid contact with skin and eyes.  
 Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage conditions : Do not store near food, foodstuffs, drugs, or potable water supplies. Keep only in the original container in a cool well ventilated place.  
 Incompatible products : None known.  
 Incompatible materials : metals.  
 Storage area : Store out of frost (-10 °C).

**7.3. Specific end use(s)**

Fertilizer.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

<b>MZ 'O'™</b>	
ACGIH	Not applicable
OSHA	Not applicable
<b>Zinc sulphate heptahydrate (7446-20-0)</b>	
ACGIH	Not applicable
OSHA	Not applicable

**8.2. Exposure controls**

Appropriate engineering controls : Avoid creating mist or spray. Avoid splashing. Eyewash stations.  
 Personal protective equipment : Avoid all unnecessary exposure.  
 Hand protection : It is a good industrial hygiene practice to minimize skin contact. Wear suitable gloves. PVC. rubber.  
 Eye protection : Chemical goggles or face shield. In case of splashing or aerosol production: protective goggles.  
 Skin and body protection : Wear suitable protective clothing. Impervious clothing.  
 Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear appropriate mask.  
 Environmental exposure controls : Prevent contaminated water run-off.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state : Liquid  
 Colour : Green  
 Odour : slight  
 Odour threshold : No data available  
 pH : > 2.1 (2.1 - 2.6) (pure product)  
 Melting point : No data available  
 Freezing point : No data available  
 Boiling point : No data available  
 Flash point : Aqueous solution, no flammable component  
 Relative evaporation rate (butylacetate=1) : No data available  
 Flammability (solid, gas) : No data available  
 Explosive limits : No data available  
 Explosive properties : Product is not explosive.

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Oxidising properties	: No oxidizing properties.
Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Relative density of saturated gas/air mixture	: 1.265 - 1.28
Solubility	: Totally soluble in water in all proportions.
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No dangerous reactions known.

**10.2. Chemical stability**

Stable under normal conditions. Product color changes with time, without effect on its properties.

**10.3. Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**10.4. Conditions to avoid**

Avoid excessive heat or cold. Do not store product at a temperature above 40 °C or below -10 °C.

**10.5. Incompatible materials**

metals.

**10.6. Hazardous decomposition products**

Thermal decomposition generates : Sulphur oxides.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Likely routes of exposure : Skin and eye contact

Acute toxicity : Not classified

<b>Zinc sulphate heptahydrate (7446-20-0)</b>	
LD50 oral rat	1260 mg/kg
ATE US (oral)	1260 mg/kg bodyweight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/effects after skin contact : May cause moderate irritation.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Like any product not designed to be ingested, this product may cause stomach distress if ingested in large quantities.

**SECTION 12: Ecological information**

**12.1. Toxicity**

Ecology - water : Toxic to aquatic life with long lasting effects.

**12.2. Persistence and degradability**

<b>MZ 'O'™</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.

**12.3. Bioaccumulative potential**

**12.4. Mobility in soil**

**12.5. Other adverse effects**

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste treatment methods : Do not dispose in household garbage. Dispose of in authorized waste collection plant.  
 Sewage disposal recommendations : Do not dispose of waste into sewer.  
 Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
 Ecology - waste materials : Dispose of container in a licensed facility.

**SECTION 14: Transport information**

**Department of Transportation (DOT)**

In accordance with DOT  
 Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s. (zinc sulphate), 9, III  
 UN-No.(DOT) : UN3082  
 Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s. (zinc sulphate)  
 Packing group (DOT) : III - Minor Danger  
 Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



Dangerous for the environment : Yes  
 Marine pollutant : Yes



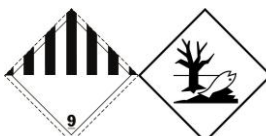
**Additional information**

Other information : Non-bulk (<= 119 gallons / 450 Liters) Not Regulated; Bulk (> 119 gallons / 450 Liters) Regulated as stated.

**Transport by sea**

**IMDG**

Transport hazard class(es) (IMDG) : 9  
 :




Marine pollutant : Yes  
 UN-No. (IMDG) : 3082

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Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc sulphate), 9, III, MARINE POLLUTANT  
 Class (IMDG) : 9 - Miscellaneous dangerous substances and articles  
 Packing group (IMDG) : III - substances presenting low danger  
 EmS-No. (Fire) : F-A  
 EmS-No. (Spillage) : S-F

**Air transport**

**IATA**  
 Transport hazard class(es) (IATA) : 9  
  
 Marine pollutant : Yes  
 UN-No. (IATA) : 3082  
 Transport document description (IATA) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc sulphate), 9, III  
 Class (IATA) : 9 - Miscellaneous Dangerous Goods  
 Packing group (IATA) : III - Minor Danger

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

No additional information available

**15.2. International regulations**

**CANADA**

**Zinc sulphate heptahydrate (7446-20-0)**  
 Listed on the Canadian DSL (Domestic Substances List) inventory.

**15.3. US State regulations**

No additional information available

**SECTION 16: Other information**

Revision date : 06/05/2018  
 Data sources : European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>. National Fire Protection Association; Fire Protection Guide to Hazardous Materials; 10th edition. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

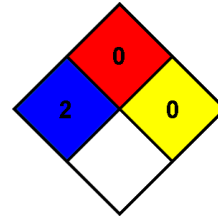
Abbreviations and acronyms:

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	ACGIH (American Conference of Government Industrial Hygienists)
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	OSHA: Occupational Safety & Health Administration
	TSCA: Toxic Substances Control Act

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Indication of changes:  
Product and company identification.

**SDS Prepared by:** The Redstone Group, LLC.  
6077 Frantz Rd  
Suite 206  
Dublin, Ohio, USA 43016  
614.923.7472  
[www.redstonegrp.com](http://www.redstonegrp.com)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*