



# SAFETY DATA SHEET

Trade Name: MicroPak™

Version: 1.3

Version Date: December 4, 2018

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name : MicroPak™  
Other Names : MicroPak™ nutrient suspension  
CAS-No. : NA

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

Identified uses : For use in fertilizer applications.

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

Manufactured by: Advancing Eco Agriculture, LLC.

4551 Parks West Road  
Middlefield, Ohio 44062  
United States

Telephone : +1 440-632-1012

Email : [info@advancingecoag.com](mailto:info@advancingecoag.com)

### 1.4 Emergency telephone number

Emergency Phone # : +1 440-723-2916

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS Classification

Skin sensitization: Category 1  
Serious eye damage/eye irritation: Category 2  
Respiratory sensitization: Category 1  
Reproductive toxicity: Category 2  
Carcinogenicity: Category 1B  
Acute Aquatic toxicity: Category 1  
Chronic Aquatic toxicity: Category 1

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H350i May cause cancer by inhalation  
H361 Suspected of damaging fertility or the unborn child  
H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P102 Keep out of reach of children  
P202 Do not handle until all safety precautions have been read and understood  
P261 Avoid breathing mist/spray



|                    |  |
|--------------------|--|
| P264               | Wash skin thoroughly after handling.   |
| P271               | Use only outdoors or in a well-ventilated area   |
| P270               | Do not eat, drink or smoke when using this product.  |
| P273               | Avoid release to the environment.  |
| P280               | Wear eye protection/face protection/skin protection.   |
| P284               | In case of inadequate ventilation, wear respiratory protection   |
| P301 + P312 + P330 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.   |
| P302 + P352        | IF ON SKIN: Wash with plenty of water.   |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313        | IF exposed or concerned: Get medical advice/ attention.  |
| P337 + P313        | If eye irritation persists: Get medical advice/ attention.   |
| P362 + P364        | Take off contaminated clothing and wash it before reuse.   |
| P391               | Collect spillage.  |
| P501               | Dispose of contents/ container to an approved waste disposal plant.  |

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - None**

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances**

**Hazardous components**

| Component                               | Classification   | Concentration* |
|---|--|----------------|
| <b>Citric Acid</b>                      |  |                |
| CAS Number: 77-92-9                     | Eye Irrit. 2; H319   | 1-3%           |
| <b>Disodium octaborate tetrahydrate</b> |  |                |
| CAS Number: 12280-03-4                  | Rep. 2: H361; Eye Irrit. 2A: H319  | 4-5%           |
| <b>Sodium molybdate</b>                 |  |                |
| CAS Number: 7631-95-0                   | Ac. Tox. 4: H302   | <1%            |
| <b>Cobalt Sulfate</b>                   |  |                |
| CAS Number: 10124-43-3                  | Ac. Tox. 4: H302; Eye Irrit. 2A: H319; Skin Sens. 1: H317; Resp. Sens. 1: H334 & H335; Carc. 1B: H350i; Rep. 2: H361; STOT 2 & 3: H373; Cr. Aqua. Tox. 1: H410 | <1%            |
| <b>Copper Sulfate</b>                   |  |                |
| CAS Number: 7758-99-8                   | Ac. Tox. 4: H302; Skin Irrit. 2: H315; Eye Irrit. 2A: H319; Ac. Aqua. Tox 1: H400; Cr. Aqua. Tox 1: H410   | 2-3%           |
| <b>Zinc Sulfate</b>                     |  |                |
| CAS Number: 7446-19-7                   | Ac. Tox. 4: H302; Eye Irrit. 1: H318; Ac. Aqua. Tox. 1: H400   | 2-3%           |
| <b>Cinnamon Oil</b>                     |  |                |
| CAS Number: 8015-91-6                   | Carc. 1B: H350; Eye Irrit. 2A: H319; Cr. Aqua. Tox. 3: H412; Flam. 4: H227; Mutagen 2: H341; Skin Irrit 3: H316  | <1%            |
| <b>Plant oil extract blend**</b>        |  |                |
| CAS Number: N/A                         | Ac. Tox. 1: H304; Carc. 2: H351; Eye. Dam. 1: H318; Flam 3: H226; Skin Irrit. 2: H315; Skin Sens.S1: H317  | <1%            |

\* Approximate weight percent. Exact weight percent is withheld as a trade secret.

\*\*Exact product name withheld as a trade secret

**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in Section 11.

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

No data available

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**5. FIREFIGHTING MEASURES****5.1 Extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

No data available

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

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**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate non-essential personnel to safe areas. For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into waterways should be avoided.

**6.3 Methods and materials for containment and cleaning up**

Soak up or vacuum without creating mists. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

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**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of mists/aerosols. Provide appropriate ventilation. For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters**

Contains disodium octaborate tetrahydrate with an OSHA PEL of 10 mg/m<sup>3</sup> TWA and an ACGIH TLV of 2 mg/m<sup>3</sup> and 6 mg/m<sup>3</sup> STEL.

Contains cobalt sulfate with an OSHA PEL of 0.1 mg/m<sup>3</sup> TWA and an ACGIH TLV of 0.02 mg/m<sup>3</sup>.

Contains sodium molybdate with an OSHA PEL of 5 mg/m<sup>3</sup> and an ACGIH TLV of 5 mg/m<sup>3</sup>.



Contains copper sulfate with an OSHA PEL of 1 mg/m<sup>3</sup> (Cu dust) and an ACGIH TLV of 1 mg/m<sup>3</sup>  
Contains zinc sulfate with an OSHA PEL of 15 mg/m<sup>3</sup> (Total dust) and 5 mg/m<sup>3</sup> (resp).

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

#### Eye/face protection

Wear safety glasses with splash guards when mixing. Use equipment for eye protection tested and approved under appropriate standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Wear standard work clothing (long pants and long-sleeved shirt) to protect from skin exposure. Non-reactive nitrile gloves should be worn. Use proper glove removal techniques to avoid skin exposure. Wash and dry hands after using the product. Wash any contaminated clothing prior to re-use.

#### Body Protection

Wear standard work clothing (long pants, long-sleeved shirt, leather or composite footwear covering entire foot).

#### Respiratory protection

In the case of mist or aerosol formation, use respirator with an approved filter. Use NIOSH-approved respiratory protection.

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into waterways must be avoided.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|  |                                |
|--|--------------------------------|
| a) Appearance                                  | Form: liquid Color: dark brown |
| b) Odor  | No data available              |
| c) Odor Threshold                              | No data available              |
| e) pH  | 2.66 at 25 °C (77 °F)          |
| f) Melting/freezing point                      | ~0°C (32°F)                    |
| g) Initial boiling point and boiling range     | ~100°C (212°F)                 |
| h) Flash point                                 | No data available              |
| i) Evaporation rate                            | No data available              |
| j) Flammability                                | No data available              |
| k) Upper/lower flammability or explosive limit | No data available              |
| l) Vapor pressure                              | No data available              |
| m) Vapor density                               | No data available              |
| n) Relative density                            | 9.8 lbs. per gallon            |
| o) Water solubility                            | No data available              |
| p) Partition coefficient n-octanol/water       | No data available              |
| q) Auto-ignition temperature                   | No data available              |
| r) Decomposition temperature                   | No data available              |
| s) Viscosity                                   | No data available              |
| t) Explosive properties                        | No data available              |
| u) Oxidizing properties                        | No data available              |

### 9.2 Other safety information

No data available

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.



### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Exposure to sunlight, freezing temperatures or heat sources

### 10.5 Incompatible materials

Strong bases

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions – This product contains components that may form sulfur oxides, copper oxides or zinc oxides during thermal decomposition.

Other decomposition products - No data available. In the event of fire: see section 5.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

Oral: ATEmix  $\geq$  5000  
Inhalation: No data available  
Dermal: No data available

#### Skin corrosion/irritation

No data available.

#### Serious eye damage/eye irritation

This product contains materials that cause serious eye irritation.

#### Respiratory or skin sensitization

This product contains materials that cause respiratory and skin sensitization

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: This product contains cobalt sulfate, identified as Group 2B: possibly carcinogenic to humans.

ACGIH: This product contains cobalt sulfate, identified as a potential carcinogen by ACGIH.

Cal. Prop. 65: This product contains a material (cobalt sulfate) known to the State of California to cause cancer.

#### Reproductive toxicity

This product contains materials (disodium octaborate tetrahydrate, sodium molybdate, cobalt sulfate) suspected of damaging fertility or the unborn child.

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

This product contains materials (cobalt sulfate, copper sulfate and zinc sulfate) at a combined concentration that requires categorization as Category 1 Acute Aquatic toxicity and as Category 1 Chronic Aquatic toxicity. While no testing was conducted, the summation method (GHS Purple Book, Seventh Edition, Chapter 4.1) indicates the expected EC50 for fish, crustacea and algae to be  $\leq$ 1mg/L.

### 12.2 Persistence and degradability

No data available

### 12.3 Bio-accumulative potential

No data available



#### 12.4 Mobility in soil

No data available

#### 12.5 Other adverse effects

##### Results of PBT and vPvB assessment

No data available

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### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

Contact a licensed professional waste disposal service to dispose of this material.

##### Contaminated packaging

Dispose of as unused product.

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### 14. TRANSPORT INFORMATION

#### TDG (Canada)

UN number: 3082 Class: 9 Packing group: III Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulfate) Marine pollutant

#### DOT (US)

UN number: 3082 Class: 9 Packing group: III Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulfate) Marine pollutant.

#### IATA

UN number: 3082 Class: 9 Packing group: III Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper sulfate)

#### IMDG

UN number: 3082 Class: 9 Packing group: III EMS-No: F-A, S-F Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper sulphate) Marine pollutant

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### 15. REGULATORY INFORMATION

This product has been classified in accordance with OSHA Hazard Communication Standard (HCS) 2012 (US), EU CLP Regulation No. 1272/2008 and Hazardous Products Regulations (HPR) (Canada).

No components of this product are reportable under SARA Sections 302.

This product may contribute to your facility reporting requirements under SARA Sections 311, 312 and/or 313. See Section 3 for a list of possibly affected chemicals.

Components of this product are listed on the TSCA, Canadian DSL and REACH inventories.

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### 16. OTHER INFORMATION

The information contained in this Safety Data Sheet (SDS) is correct to the best of our knowledge, understanding and belief at the date of publication. This SDS is not intended to be all inclusive or exhaustive and shall be used as guidance only. The information in this document is applicable only to the product with respect to appropriate safety precautions and may not be applicable to combinations with other products. It does not represent any guarantee of the properties of the product. Advancing Eco Agriculture, LLC and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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