



Safety Data Sheet

Section 1: Identification

| | | | |
|-------------------------|---|--------------------------|---------------------------------------|
| Product Name: | Down To Earth Liquid MicroNutrient 2-0-1 | Manufacturer: | Down To Earth Distributors, Inc. |
| Common Name(s): | N/A | Physical Address: | 3030 Judkins Road Eugene, OR 97403 |
| Product Code: | N/A | Mailing Address: | PO Box 1419 Eugene, OR 97440 |
| CAS #: | N/A | Telephone Number: | 541-485-5932 |
| Recommended Use: | Fertilizer | Emergency #: | 800-234-5932 |
| Restrictions: | N/A | | |

Section 2: Hazard Identification

Hazard Groups: Health, Environmental
Hazard Classes: Acute Toxicity, Oral (Category 4)
Skin Corrosion/Irritation (Category 2)
Serious Eye Damage/Eye Irritation (Category 2A)
Skin Sensitization (Category 3)
Acute Hazards to the Aquatic Environment (Category 3)
Chronic Hazards to the Aquatic Environment (Category 3)



Warning

Hazard Statements

| | |
|---|---|
| H302: Harmful if swallowed | H402: Harmful to aquatic life |
| H315: Causes skin irritation | H412: Harmful to aquatic life with long-lasting effects |
| H317: May cause an allergic skin reaction | |
| H320: Causes eye irritation | |

Precautionary Statements

Prevention

P233: Keep container tightly closed
P234: Keep only in original container
P261: Avoid breathing mist or vapor
P262: Do not get in eyes, on skin, or on clothing
P264: Wash skin thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P273: Avoid release to the environment
P280: Wear protective clothing; use eye protection and nitrile gloves under normal conditions

Response

P302: If on skin: Wash with plenty of soap and water



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P305: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312: If swallowed: Call a poison center/doctor if you feel unwell

P330: If swallowed: Rinse mouth

P333: If skin irritation or rash occurs: Get medical advice/attention

P337: If eye irritation persists: Get medical advice/attention

Storage

P404: Store in a closed container

P420: Store away from incompatible materials. Product should be stored above 12.8° C (55° F)

Disposal

P501: Dispose of contents in accordance with local, state, and federal regulations.

Section 3: Composition/Information on Ingredients

Mixtures

| Chemical Name | Common name and synonyms | CAS Number | % |
|--|--------------------------|--------------|-----------|
| Iron Sulfate | | 10124-49-9 | 10 - < 20 |
| Sodium Nitrite | | 7632-00-0 | 10 - < 20 |
| Manganese Sulphate | | 7785-87-7 | 5 - < 10 |
| Trade Secret* | | Proprietary* | 5 - < 10 |
| Zinc Sulfate | | 7733-02-0 | 5 - < 10 |
| Copper (II) Sulfate Pentahydrate | | 7758-99-8 | < 1 |
| Other components below reportable levels | | | 50 - < 60 |

* Indicates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Section 4: First-Aid Measures

Inhalation: Remove person to fresh air and keep comfortable for breathing. If respiratory distress continues, seek medical attention.

Skin Irritation: Remove contaminated clothing immediately and wash skin with plenty of soap and water. In case of eczema or other skin disorders, seek medical attention. If skin irritation persists, seek medical attention. Wash contaminated clothing before reuse. Important symptoms may include redness, rash and pain. May cause an allergic skin reaction.

Eye: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If pain and/or eye irritation persists, seek medical attention. Important symptoms may include stinging, tearing, redness, swelling and blurred vision.



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Ingestion: Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into lungs. Seek medical attention.

General Info: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this SDS to the doctor in attendance.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media: Water Fog, Foam, Carbon Dioxide (CO₂), Dry Chemical Powder

Unsuitable Extinguishing Media: Do not use water jet as an extinguisher as this may spread the fire

Flash Point: N/A

Specific Fire-Related Hazards: During fire, gases hazardous to health may be formed

Special Protective Equipment: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special Fire-Fighting Procedures: None

Unusual Fire/Explosion Hazards: None

Section 6: Accidental Release Measures

Personal Precautions: Wear appropriate protective clothing, eye protection and nitrile gloves during handling and clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Avoid breathing mist or vapors.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

Methods for Handling Spills: In case of large spills: Stop the flow of material if this is without risk. Absorb in vermiculite, dry sand or earth and place into disposal containers. Prevent product from entering drains. Following product recovery, flush area with clean water.

In case of small spills: Wipe up with absorbent material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see Section 13 of the SDS.

Section 7: Handling and Storage

Safe Handling: Avoid breathing mist or vapors. Avoid contact with eyes, skin and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke.



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Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Safe Storage: Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

Section 8: Exposure Control/Personal Protection

Occupational Exposure Limits:

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|---------------------------------------|---------|---------------------|
| Manganese Sulphate (CAS 7785-87-7) | Ceiling | 5 mg/m ³ |

US ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|---------------------------------------|------|------------------------|---------------------|
| Iron Sulfate (CAS 10124-49-9) | TWA | 1 mg/m ³ | |
| Manganese Sulphate (CAS 7785-87-7) | TWA | 0.1 mg/m ³ | Inhalable fraction |
| | | 0.02 mg/m ³ | Respirable fraction |

US NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value | Form |
|--|------|---------------------|---------------|
| Copper (II) Sulfate Pentahydrate (CAS 7758-99-8) | TWA | 1 mg/m ³ | Dust and mist |
| Iron Sulfate (CAS 10124-49-9) | TWA | 1 mg/m ³ | |
| Manganese Sulfate (CAS 7785-87-7) | STEL | 3 mg/m ³ | Fume |
| | TWA | 1 mg/m ³ | Fume |

Recommended PPE and Handling Practices

Respiratory: In case of insufficient ventilation, wear suitable respiratory equipment

Skin Protection: Wear nitrile or other chemical resistant gloves

Eye Protection: Wear safety glasses with side shields or goggles

Hygiene: Keep away from food and drink. Wash hands thoroughly with soap and water after handling the material.

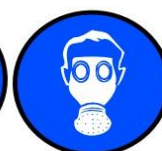
Ventilation: Ensure workspace is well-ventilated



Safety Glasses



Gloves



Particle Mask / Respirator



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Section 9: Physical and Chemical Properties

| | | | |
|-----------------------------|----------------------|-------------------------------|------------------|
| Appearance: | Light brown liquid | Solubility in Water: | N/A |
| Flammability Limits: | N/A | Initial Boiling Point: | 850° C estimated |
| Odor: | Slight odor | Boiling Range: | N/A |
| Odor Threshold: | N/A | Flash Point: | N/A |
| Vapor Pressure: | 0.0001 hPa estimated | | |
| Vapor Density: | N/A | Evaporation Rate: | N/A |
| pH: | 0.9 | Flammability: | N/A |
| Specific Gravity: | 1.38 | Viscosity: | N/A |
| Melting Point: | N/A | Percent Volatile: | 53.34% estimated |
| Freezing Point: | N/A | | |

Section 10: Stability and Reactivity

| | |
|----------------------------------|--|
| Reactivity: | Reacts violently with strong alkaline substances. This product may react with reducing agents. |
| Chemical Stability: | Product is stable under normal temperatures and conditions |
| Conditions to Avoid: | Do not mix with other chemicals |
| Required Stabilizers: | None |
| Incompatibility: | Bases. Reducing agents |
| Hazardous Decomposition: | None currently known |
| Hazardous Polymerization: | Will not occur |
| Hazardous Reactions: | None currently known |

Section 11: Toxicological Information

| | |
|------------------------------------|--|
| Primary Routes of Exposure: | Inhalation, skin contact and eye contact |
| Symptoms of Exposure: | Causes skin irritation. Slight dermatitis may occur. Pain, rash and swelling may occur in skin. Causes serious eye irritation. Symptoms may include stinging, pain, tearing, redness, swelling and blurred vision. |



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Information on Toxicological Effects

Acute Toxicity: Harmful if swallowed. May cause an allergic skin reaction.

| Components | Species | Test Results |
|-------------------|----------------|---------------------|
|-------------------|----------------|---------------------|

Copper (II) Sulfate Pentahydrate (CAS 7758-99-8)

Acute

Oral

| | | |
|-------|-------|-----------|
| LD100 | Mouse | 50 mg/kg |
| LD50 | Rat | 960 mg/kg |

Manganese Sulfate (CAS 7785-87-7)

Acute

Oral

| | | |
|-------|-------|-----------|
| LD100 | Mouse | 305 mg/kg |
|-------|-------|-----------|

Sodium Nitrite (CAS 7632-00-0)

Acute

Inhalation

| | | |
|------|-----|-------------------|
| LC50 | Rat | 5.5 mg/l, 4 Hours |
|------|-----|-------------------|

Oral

| | | |
|------|--------|-----------|
| LD50 | Mouse | 175 mg/kg |
| | Rabbit | 186 mg/kg |
| | Rat | 85 mg/kg |

Trade Secret

Acute

Oral

| | | |
|------|-------|------------|
| LD50 | Mouse | 5040 mg/kg |
| | Rat | 6730 mg/kg |

Zinc Sulfate (CAS 7733-02-0)

Acute

Dermal

| | | |
|------|-----|--------------|
| LD50 | Rat | > 2000 mg/kg |
|------|-----|--------------|

Oral

| | | |
|------|-------|-----------|
| LD50 | Mouse | 57 mg/kg |
| | Rat | 623 mg/kg |

*Estimates for product may be based on additional component data not shown

Skin Corrosion/Irritation: Causes skin irritation

Serious Eye Irritation: Causes serious eye irritation

Respiratory Sensitization: Not a respiratory sensitizer

Germ Cell Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic



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| | |
|-------------------------------|---|
| Carcinogenicity: | This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA |
| Reproductive Toxicity: | This product is not expected to cause reproductive or developmental effects. |
| Aspiration Hazard: | Not an aspiration hazard |
| Chronic Effects: | Prolonged inhalation may be harmful |

Section 12: Ecological Information

Ecotoxicity: Harmful to aquatic life with long lasting effects. Because of the low pH of this product, it would be expected to produce significant ecotoxicity to aquatic organisms and aquatic systems.

| Components | Species | Test Results |
|--|---------|---|
| Copper (II) Sulfate Pentahydrate (CAS 7758-99-8) | | |
| Aquatic | | |
| Crustacea | EC50 | Water flea (<i>Daphnia magna</i>) 0.0058 – 0.0073 mg/l, 48 hours |
| Fish | LC50 | Bluegill (<i>Lepomis macrochirus</i>) 0.66 – 1.15 mg/l, 96 hours |
| Manganese Sulphate (CAS 7785-87-7) | | |
| Aquatic | | |
| Crustacea | EC50 | Water flea (<i>Daphnia magna</i>) 7.09 – 9.36 mg/lm 48 hours |
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) 24.3 – 38.9 mg/l, 96 hours |
| Sodium Nitrite (CAS 7632-00-0) | | |
| Aquatic | | |
| Crustacea | EC50 | Greasyback shrimp (<i>Metapenaeus ensis</i>) 16.14 – 26.61 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout (<i>Oncorhynchus mykiss</i>) 0.15 – 0.25 mg/l, 96 hours |
| Zinc Sulfate (CAS 7733-02-0) | | |
| Aquatic | | |
| Crustacea | EC50 | Rotifer (<i>Philodina acuticornis</i>) 0.3 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout (<i>Oncorhynchus mykiss</i>) 0.162 mg/l, 96 hours |

*Estimates for product may be based on additional component data not shown

| | |
|-----------------------------------|---|
| Bioaccumulation Potential: | Currently unknown |
| Mobility in Soil: | Currently unknown |
| Other Adverse Effects: | No other adverse environmental effects are expected from this product |

Section 13: Disposal Considerations

Disposal Instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow the product to drain into sewers/water supplies. Dispose of contents/containers in accordance with local, state and federal regulations.



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Section 14: Transport Information

DOT: Not regulated as dangerous goods
UN Number: None assigned
UN Proper Shipping Name: None assigned
Transport Hazard Class: Not regulated as dangerous goods
Environmental Hazards: None known
Guidance on Bulk Transport: Use best known practices when shipping in bulk
Special Precautions: None known

Section 15: Regulatory Information

US Federal Regulations: This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200
All components are on the US EPA TSCA Inventory List

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

SODIUM NITRITE (CAS 7632-00-0) 1.0 % One-Time Export Notification only

CERCLA Hazardous Substance List (40 CFR 302.4)

MANGANESE SULPHATE (CAS 7785-87-7) Listed

SODIUM NITRITE (CAS 7632-00-0) Listed

ZINC SULFATE (CAS 7733-02-0) Listed

SARA 304 Emergency release notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed

SARA 311/312 Hazardous chemical

No



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SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|----------------------------------|------------|-----------|
| SODIUM NITRITE | 7632-00-0 | 10 - < 20 |
| MANGANESE SULPHATE | 7785-87-7 | 5 - < 10 |
| ZINC SULFATE | 7733-02-0 | 5 - < 10 |
| COPPER (II) SULFATE PENTAHYDRATE | 7758-99-8 | < 1 |

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

MANGANESE SULPHATE (CAS 7785-87-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)

SODIUM NITRITE (CAS 7632-00-0)

ZINC SULFATE (CAS 7733-02-0)

US. New Jersey Worker and Community Right-to-Know Act

COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)

MANGANESE SULPHATE (CAS 7785-87-7)

SODIUM NITRITE (CAS 7632-00-0)

ZINC SULFATE (CAS 7733-02-0)

US. Pennsylvania Worker and Community Right-to-Know Law

COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)

IRON SULFATE (CAS 10124-49-9)

SODIUM NITRITE (CAS 7632-00-0)

ZINC SULFATE (CAS 7733-02-0)

US. Rhode Island RTK

MANGANESE SULPHATE (CAS 7785-87-7)

SODIUM NITRITE (CAS 7632-00-0)

ZINC SULFATE (CAS 7733-02-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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Section 16: Other Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge at the date of its publication. The information given is designed only as 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.

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Date of Revision: 05/06/2016