

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>Desert Micro Blend</b>
<b>Other means of identification</b>	
<b>Product code</b>	26002
<b>Recommended use</b>	Agricultural/ Horticultural Use- Micronutrient Fertilizer- Refer to product label.
<b>Recommended restrictions</b>	Refer to product label.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufacturer</b>	
<b>Distributor</b>	Fertizona Casa Grande LLC
<b>Address</b>	
	2850 South Peart Rd. Casa Grande, AZ 85193-9024 United States
<b>Telephone</b>	(520) 836-7477
<b>Website</b>	www.fertizona.com
<b>Email</b>	info@fertizona.com
<b>Emergency Phone (24 Hour)</b>	<b>Infotrac:</b> (800) 535-5053

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Skin irritation	Category 2
	Serious eye irritation	Category 2A
	Specific target organ toxicity, repeated exposure	Category 2
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Warning
<b>Hazard statement</b>	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
<b>Precautionary statement</b>	
<b>Prevention</b>	Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Wear eye/face protection.
<b>Response</b>	Wash hands after handling. If swallowed: Rinse mouth. Do not induce vomiting. Get medical advice/attention if you feel unwell. If on skin (or hair): Take off all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse. Collect spillage.
<b>Storage</b>	Store locked up. Store away from incompatible materials.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Zinc Sulfate		7733-02-0	10 - < 20
Manganese Sulfate, monohydrate		10034-96-5	5 - < 10*
Cupric Sulfate, pentahydrate		7758-99-8	1 - < 3*
Ferrous Sulfate		7782-63-0	1 - < 3
Other components below reportable levels			70 - < 80

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

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Wash off with soap and water. Call a physician if skin irritation persists. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician if irritation persists.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Causes serious eye irritation. Symptoms may include stinging, tearing, redness, and blurred vision. Severe eye irritation.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire-fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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**Methods and materials for containment and cleaning up**

Should not be released into the environment.

Large Spills: This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

**Environmental precautions**

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

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Contact local authorities in case of spillage to drain/aquatic 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.

**7. Handling and storage**

**Precautions for safe handling**

Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

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

Store locked up. Store in original tightly closed container. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

**8. Exposure controls/personal protection**

**Occupational exposure limits**

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

Components	Type	Value
Manganese Sulfate, monohydrate (CAS 10034-96-5)	Ceiling	5 mg/m3

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Manganese Sulfate, monohydrate (CAS 10034-96-5)	TWA	0.1 mg/m3	Inhalable fraction.
		0.02 mg/m3	Respirable fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
Cupric Sulfate, pentahydrate (CAS 7758-99-8)	TWA	1 mg/m3	Dust and mist.
Manganese Sulfate, monohydrate (CAS 10034-96-5)	STEL	3 mg/m3	Fume.
		TWA	1 mg/m3

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

<b>Appearance</b>	Liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Clear colorless or nearly colorless to Beige.
<b>Odor</b>	None.
<b>Odor threshold</b>	Not available.
<b>pH</b>	1.7 - 2.1
<b>Salt-Out / Crystallization Temp</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	219.2 °F (104 °C)
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	< 1
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Soluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Pounds per gallon</b>	10.2 lb/gal (typical)

**10. Stability and reactivity**

<b>Reactivity</b>	Reacts violently with strong alkaline substances. This product may react with reducing agents.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Bases. Reducing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

**11. Toxicological information****Information on likely routes of exposure**

<b>Ingestion</b>	Causes digestive tract burns.
<b>Inhalation</b>	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system.

**Skin contact** Causes skin irritation.  
**Eye contact** Causes serious eye irritation.

**Information on toxicological effects**

**Acute toxicity**

Product	Species	Test Results
Desert Micro Blend (CAS Mixture)		
<b>Acute</b>		
<i>Oral</i>		
LD100	Mouse	1634.5123 mg/kg estimated
LD50	Mouse	2827.6482 mg/kg estimated
	Rat	11204.7285 mg/kg estimated
<i>Other</i>		
LD100	Mouse	2260.062 mg/kg estimated
LD50	Mouse	506.6171 mg/kg estimated
	Rabbit	8250 mg/kg estimated
	Rat	21598.2188 mg/kg estimated

Components	Species	Test Results
Cupric Sulfate, pentahydrate (CAS 7758-99-8)		
<b>Acute</b>		
<i>Oral</i>		
LD100	Mouse	50 mg/kg
LD50	Rat	960 mg/kg
<i>Other</i>		
LD50	Rabbit	> 8 g/kg
Manganese Sulfate, monohydrate (CAS 10034-96-5)		
<b>Acute</b>		
<i>Oral</i>		
LD100	Mouse	305 mg/kg
<i>Other</i>		
LD100	Mouse	146 mg/kg
LD50	Mouse	64 mg/kg
Zinc Sulfate (CAS 7733-02-0)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	623 mg/kg

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

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not available.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

## OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not available.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.

## 12. Ecological information

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

Product	Species	Test Results	
Desert Micro Blend (CAS Mixture)			
<b>Aquatic</b>			
Crustacea	EC50	Daphnia	638.5859 mg/l, 48 hours estimated
Fish	LC50	Fish	1521.8973 mg/l, 96 hours estimated
<b>Components</b>			
<b>Species</b>			
<b>Test Results</b>			
Cupric Sulfate, pentahydrate (CAS 7758-99-8)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Bosmina longirostris</i> )	0.0037 mg/l, 48 hours
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	0.66 - 1.15 mg/l, 96 hours
Manganese Sulfate, monohydrate (CAS 10034-96-5)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Daphnia obtusa</i> )	30.8 - 44.1 mg/l, 48 hours
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	36.9 mg/l, 96 hours 29.7 - 52.7 mg/l, 192 hours
Zinc Sulfate (CAS 7733-02-0)			
<b>Aquatic</b>			
Algae	LC50	Green algae ( <i>Chlorella vulgaris</i> )	5 mg/l, 24 hours
Crustacea	EC50	Amphipod ( <i>Crangonyx pseudogracilis</i> )	15.1 - 24.5 mg/l, 96 hours
		Rotifer ( <i>Philodina acuticornis</i> )	0.5 mg/l, 48 hours
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	10.62 - 11.3 mg/l, 5 days 0.168 - 0.25 mg/l, 96 hours
		Fish ( <i>Lepidocephalichthyes guntea</i> )	76 - 118.8 mg/l, 24 hours

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

<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	Not available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

Not DOT regulated in domestic (USA ground) transportation in package sizes less than 500 lbs (226.8 kg); 47.6 gallons (180.2 liters). The DOT transportation information below is for shipments with package sizes equal to or exceeding this value. DOT Regulated Marine Pollutant. IMDG Regulated Marine Pollutant.

**DOT**

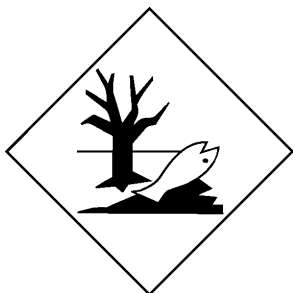
<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	Environmentally hazardous substances, liquid, n.o.s. (Cupric Sulfate, pentahydrate RQ = 500 lbs; Zinc Sulfate RQ = 8301 lbs)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>Packing group</b>	III
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	8, 146, 335, IB3, T4, TP1, TP29
<b>Packaging exceptions</b>	155
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241

DOT Shipping Notes: 40 CFR 172.504(f)(9) For Class 9, a CLASS 9 placard is not required for domestic (USA ground) transportation, however shipments with packaging exceeding the Reportable Quantity (RQ) or bulk packaging must be marked with the appropriate identification number on a CLASS 9 placard, an orange panel, or a white square-on-point display configuration as required. Since the Class 9 placard is not required (although it may be used) the hazardous material endorsement is also not required on a Commercial Drivers License.

**DOT; IATA; IMDG**



**Marine pollutant**



**15. Regulatory information**

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Ferrous Sulfate (CAS 7782-63-0)	Manganese Sulfate, monohydrate (CAS 10034-96-5)	Zinc Sulfate (CAS 7733-02-0)	Listed.
			Listed.
			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)**

<b>Hazard categories</b>	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Zinc Sulfate	7733-02-0	10 - < 20
Manganese Sulfate, monohydrate	10034-96-5	5 - < 10
Cupric Sulfate, pentahydrate	7758-99-8	1 - < 3

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Manganese Sulfate, monohydrate (CAS 10034-96-5)

**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. Massachusetts RTK - Substance List**

Cupric Sulfate, pentahydrate (CAS 7758-99-8)  
 FERROUS SULFATE (CAS 7782-63-0)  
 Zinc Sulfate (CAS 7733-02-0)

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

Cupric Sulfate, pentahydrate (CAS 7758-99-8)  
 Manganese Sulfate, monohydrate (CAS 10034-96-5)  
 Zinc Sulfate (CAS 7733-02-0)

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

Cupric Sulfate, pentahydrate (CAS 7758-99-8)  
 FERROUS SULFATE (CAS 7782-63-0)  
 Zinc Sulfate (CAS 7733-02-0)

**US. Rhode Island RTK**

FERROUS SULFATE (CAS 7782-63-0)  
 Manganese Sulfate, monohydrate (CAS 10034-96-5)  
 Zinc Sulfate (CAS 7733-02-0)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.



## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 08-27-2015

**Revision date** 02-17-2020

**Version #** 06

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of Manufacturer's knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its own tests of the Product to determine suitability of the Product for user's particular use.