



SAFETY DATA SHEET

1. Identification

Product Identifier Root Fue 1

Other means of identification

SDS number 201845

Recommended use and restriction on use

Recommended use Soil additive; micronutrient. Not for animal or human consumption.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: Terra Ally LLC

Address: 339 Broadway, Suite 140
Cape Girardeau, MO 63701

Telephone: 1-888-638-9984

SDS Information: info@terraally.com

Emergency Telephone Number

Terra Ally LLC 1-888-638-9984

PERS 24 Hour Emergency Response Information

Domestic: 1-800-633-8253

International: 1-801-629-0667

2. Hazard(s) Identification

Hazard Classification

Physical Hazard(s)		Not classified
Health Hazard(s)	Eye irritation	Category 2B
	Skin irritant	Category 3
	Specific target organ toxicity	Not established.
	Acute toxicity	Not established.
Environmental Hazard(s)	Acute Aquatic Toxicity	Not established.
	Chronic Aquatic Toxicity	Not established.
OSHA hazard(s)	Not Classified	

Label Elements



Signal Word(s) Warning.

Hazard Statement H303 – May be harmful if swallowed.
H315 – May cause skin irritation.
H320 – May cause eye irritation.

Precautionary Statement Do not eat, drink, or smoke while using this product. Wear protective gloves/protective clothing/eye protection/face protection. Seek medical attention. Wash thoroughly after handling. If swallowed, seek medical attention. Remove contaminated articles and wash prior to reuse. If on skin or eyes; rinse area thoroughly. If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention.

Prevention Wear protective equipment which includes protection on skin/clothing/eyes/face. Do not breathe dust/fume. Avoid release to

the environment.

Response If in eyes: Wash eyes with water for at least 30 minutes. If irritation persists, get medical attention. If skin irritation occurs: Wash affected area with soap and water for approximately 30 minutes. If inhaled: Remove exposed person to fresh air. If ingested: Do not induce vomiting. Get immediate medical attention.

Storage Store in a cool, dry, well-ventilated area away from other chemicals/incompatible materials.

Disposal Dispose of in accordance with appropriate Federal, State, and Local regulations and/or ordinances.

Hazard(s) not otherwise classified Not known.

3. Composition/information on ingredients

Mixtures

Chemical Name	CAS#	%
Cobalt Sulfate Heptahydrate	10026-24-1	Trade Secret*
Manganese Sulfate Monohydrate	10101-68-5	Trade Secret*

Trade secret statement (OSHA 1910.1200(i))

*The specific chemical identities and/or actual concentrations or actual concentration ranges for one or more listed components are being withheld as trade secrets under the US regulation 29 CFR 1910.1200(i).

4. First-aid measure(s)

Ingestion Rinse mouth. Seek medical attention. Do not induce vomiting unless directed otherwise by a medical professional.

Inhalation If symptomatic, move to a well-ventilated area; Seek medical attention if symptoms persist.

Skin Contact Immediately flush affected area with mild soap and water. Remove any contaminated articles. If irritation persists, seek medical attention.

Eye Contact Flush eyes with a steady stream of clean water for 15-20 minutes. If irritation persists, seek medical attention.

Most important symptoms/effects, acute and delayed

Symptoms Can cause eye and skin irritation.

Indication of immediate medical attention and special treatment needed

Symptoms Symptoms may be delayed. Seek medical attention if irritation occurs.

5. Fire-fighting measures

Suitable extinguishing methods

Not considered to be a fire hazard. Use extinguishing media applicable to the surrounding fire.

Unsuitable extinguishing methods

Not known.

Specific hazards arising from the chemical

This material is non-combustible. Irritating or toxic substances may be emitted upon thermal decomposition. Thermal decomposition products may include oxides of carbon and nitrogen.

Special protective equipment and precautions for firefighters

Do not enter fire area without proper protective equipment, including full protective clothing and self-contained respiratory protection.

Firefighting equipment instructions

Not known. Seek additional information from qualified fire professionals.

Specific methods

Recommended to use water spray or fog for cooling exposed containers. Exercise caution when fighting any fire. Prevent fire-fighting water from entering the environment.

General fire hazard(s)

None known.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Wear appropriate Personal Protective Equipment (See section 8).

Methods and materials for containment and cleaning up

Contain material and place in suitable containers for disposal. May use an inert absorbent material; such as sand, silica, etc. If material enters a waterway, notify the appropriate authorities. Wear Personal Protective Equipment per section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and Storage

Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Wear appropriate Personal Protective Equipment. Always observe good hygiene measures; such as washing skin and clothing after handling the material and prior to eating, drinking, or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Not intended for human or animal consumption.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from incompatible materials (See section 10). Use appropriate containers to avoid environmental release. Use good engineering practices to establish good ventilation. Avoid contact with skin, eyes and clothing. Wear suitable protective equipment to protect from contact. Avoid breathing mist or vapors. Wash skin thoroughly after handling. Store in closed containers away from extreme heat, sparks, open flame or oxidizing materials. Avoid freezing. Keep away from children and animals.

8. Exposure Controls/Personal Protection

Occupational exposure limits

Chemical Name	ACGIH TLV	OSHA PEL
Cobalt Sulfate Heptahydrate	0.1 mg/m ³	None known
Manganese Sulfate Monohydrate	0.2 mg/m ³	5 mg/m ³

Biological limit values

Not available.

Appropriate engineering controls

Good general ventilation and/or local exhaust ventilation at the point of generation is recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (goggles). Additional equipment as deemed appropriate for the task.

Skin protection

Hand protection

Chemical resistant gloves are recommended.

Other

Wear chemical-resistant gloves, impervious apron, footwear, and protective clothing appropriate for the risk of exposure limits or to an acceptable level for the risk of exposure. Contact chemical protective clothing manufacturer for specific information.

Respiratory protection

Where appropriate, NIOSH-approved respirator. If respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Respirator type: Air-purifying respirator with an appropriate, government approved, air purifying filter, cartridge, or canister.

Thermal hazards

None known.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Appearance	
Physical state	Liquid.
Form	Aqueous solutions.
Color	Clear magenta.
Odor	Faint seaweed.
Odor threshold	Not established.
PH	7-8
Melting point/freezing point	Not available.
Initial boiling point and boiling point range	Not established.
Flash point	Not available.
Evaporation rate	>1
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limit	
Explosive limit – lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.22 g/ml (10.2 lbs./gal)
Solubility (ies)	
Solubility (water)	Soluble.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not available.
Particle size	Not available.

10. Stability and Reactivity

Reactivity	This product is non-reactive under normal conditions of use, storage, and transport. Avoid incompatible materials.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, humidity, sparks, and contact with incompatible materials.
Incompatible materials	None known.
Hazardous decomposition products	Ammonia gases.

11. Toxicological Information

Information on likely routes of exposure	
Inhalation	Vapors and spray mist may irritate throat and respiratory system and cause coughing.
Skin contact	Prolonged skin contact may cause irritation.
Eye contact	Can cause eye irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms related to the physical, chemical, and toxicological characteristics	Can cause serious eye and skin irritation.

Information on toxicological effects

Acute toxicity Causes eye irritation. Mild skin irritation. May cause respiratory irritation.

Components	Species	Test Results	Type
Cobalt Sulfate Heptahydrate		No data available.	
Manganese Sulfate Monohydrate	Rat	2150 mg/kg	Oral LD ₅₀
Skin corrosion/irritation		Prolonged exposure may cause skin irritation.	

Serious eye damage/eye irritation	Can cause serious eye irritation/damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	Not a skin sensitizer.
Germ cell mutagenicity	Not established.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Not established.
Specific target organ toxicity- single exposure	
	Not established.
Specific target organ toxicity- repeated exposure	
	Not established.
Respiration hazard	Not established.

12. Ecological Information

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic vertebrates
Cobalt Sulfate Heptahydrate	No data available	No data available	No data available
Manganese Sulfate Monohydrate	No data available	No data available	No data available

Persistence and degradability	Not available.
Bioaccumulative potential	Not available.
Mobility in soil	May disperse in soil.
Mobility in general	This product is water soluble and may disperse in soil.
Other adverse affects	Not available.

13. Disposal Considerations

Disposal instructions

Since emptied containers may retain product residue, follow label warnings even after container is emptied. The generation of waste should be avoided whenever possible. When practical, recycle in an environmental acceptable, regulatory compliant manner. Dispose of non-recyclable products in accordance with all applicable Federal, State, and local requirements.

Hazardous waste code

The waste code should be assigned in discussion between the user, producer, and the waste disposal company.

Waste from residue(s)/unused product(s)

Recover and recycle if practical. Dispose in accordance with all applicable regulations.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation Information

	DOT	IATA	ERG Code
UN Number	Not established.	Not established.	Not established.
UN proper shipping name	Not established.	Not established.	Not established.
Transport hazard class(es)			
Class	Not established.	Not established.	Not established.
Subsidiary risk	Not established.	Not established.	Not established.
Label(s)	Not established.	Not established.	Not established.
Packing group	Not established.	Not established.	Not established.
Environmental hazard(s)	Not established.	Not established.	Not established.
Special precautions for user	Not established.	Not established.	Not established.
Special provisions	Not established.	Not established.	Not established.
Packaging exceptions	Not established.	Not established.	Not established.

Packaging non bulk	Not established.	Not established.	Not established.
Packaging bulk	Not established.	Not established.	Not established.
EmS	Not established.	Not established.	Not established.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.	Not established.	Not established.

15. Regulatory Information

US Federal regulations This product is not 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) No requirements.
 OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) No requirements.
 CERCLA Hazardous Substance List (40 CFR 302.4) No requirements.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories

Immediate Hazard- No.
 Delayed Hazard – No.
 Fire Hazard – No.
 Pressure Hazard – No.
 Reactivity Hazard – No.

SARA 302 Extremely Hazardous Substance No requirements.

SARA 311/312 Hazardous chemical

Acute Health Hazard - No.
 Chronic Health Hazard - No.
 Fire Hazard - No.
 Sudden release of pressure hazard - No.
 Reactive hazard - No.

SARA 313 (TRI reporting)

Chemical Name	CAS Number	Threshold Value
Cobalt Sulfate Heptahydrate	10026-24-1	Not established
Manganese Sulfate Monohydrate	10101-68-5	>0.5

Other Federal Regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPS) List No requirements.
 Clean Air Act (CAA) Section 112 (r) Accidental Release Prevention (40 CFR 68.130) Not established.

Safe Water Drinking Act (SDWA)

Not established.

US State Regulations

US. California Proposition 65 Not listed.
 US. New Jersey Worker and Community Right-to-Know Act No requirements.
 US. Pennsylvania RTK- Hazardous Substances Not listed.

16. Other Information, including Date of Preparation or Last Revision

Issue Date: 03/19/2019

Version #: 03

Prepared by: CLE

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