



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019

SUPERSEDES: 05/17/2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name LEAF LIFE LIGNIN COPPER 5%

Other means of identification

Product Code FRT-00354
Document 1000754494 1000754016 1000754489
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Liquid Micronutrient for Use in Organic Agriculture.
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
LOVELAND PRODUCTS, INC.
P.O. Box 1286
Greeley, CO 80632-1286

Emergency telephone number

Company Phone Number 1-888-LPI-CUST (574-2878)
Emergency Telephone Chemtrec 1-800-424-9300
Medical Emergencies: 1-866-944-8565
US regulations require reporting spills of this material that could reach any surface waters.
The toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4 - (H302)
-----------------------	---------------------

Label elements



Signal word **WARNING**

Hazard statements H302 - Harmful if swallowed

Precautionary Statements - Prevention P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product

Precautionary Statements - Response P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019
P330 - Rinse mouth

SUPERSEDES: 09/17/2015

Precautionary Statements - Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical Name	CAS No	Weight-%	GHS Classification	Trade Secret
Copper Sulfate, Mono	7758-99-8	10 - 30		*

*The exact percentage (concentration) of composition has been withheld as a trade secret.
OSHA Hazard Communication 29 CFR 1910.1200

4. FIRST AID MEASURES

Description of first aid measures

General advice	(Get medical attention immediately if symptoms occur.)
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. Call a poison control center or doctor for treatment advice.
Skin contact	Take off contaminated clothing. Call a poison control center or doctor for treatment advice.
Inhalation	Remove to fresh air.
Ingestion	Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed. Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also call 1-866-944-8565 for emergency medical treatment information.

Note to physicians Treat symptomatically.

Antidotes No data available



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019

SUPERSEDES: 09/17/2015

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing agent suitable for type of surrounding fire, Use CO₂, dry chemical, or foam

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials None known based on information supplied.



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019

SUPERSEDES: 09/17/2015

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection Dependent on job function. If vapors or dusts exceed acceptable levels, wear a MSHA/NIOSH approved air-purifying respirator with any cartridges/filters approved for pesticides. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection Standard. Wear a supplied air respirator if exposure concentrations are unknown.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019

SUPERSEDES: 09/17/2015

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aqueous solution
Color	Dark brown
Odor	Odorless
Odor threshold	No data available

<u>Property</u>	<u>Values (Remarks - Method)</u>
pH	No data available
Melting point / freezing point	No data available
Boiling point	No data available
Flash point	> 100 °C (Tag Closed Cup)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Vapor pressure	No data available
Vapor density	No data available
Specific Gravity	No data available
Water solubility	Complete
Solubility in other solvents	No data available
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Kinematic viscosity	No data available
Dynamic viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

Other Information

VOC Content (%)	No data available
Density	10.15lbs/gal

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019

SUPERSEDES: 09/17/2015

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Acute toxicity of the formulated product:

Chemical Name	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Copper Sulfate, Mono	= 960 mg/kg (Rat) = 300 mg/kg (Rat)	> 2 g/kg (Rat)	

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic toxicity	May cause adverse liver effects.
Target Organ Effects	Eye damage/irritation, kidney, liver, Respiratory system, Skin.
Aspiration hazard	No information available.

Information on likely routes of exposure

Product Information	No data available
Inhalation	No data available.
Eye contact	No data available.
Skin contact	No data available.
Ingestion	No data available.



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019

SUPERSEDES: 09/17/2015

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Copper Sulfate, Mono 7758-99-8	-	LC50 0.66 - 1.15 mg/L 96 h Lepomis macrochirus LC50 0.96 - 1.8 mg/L 96 h Lepomis macrochirus LC50 0.1478 - 0.165 mg/L 96 h Oncorhynchus mykiss LC50 0.09 - 0.19 mg/L 96 h Oncorhynchus mykiss LC50 0.6752 mg/L 96 h Pimephales promelas	EC50 0.147 - 0.227 mg/L 48 h Daphnia magna

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at <http://www.acrecycle.org/>. Do not contaminate water, food or feed by storage or disposal.

Contaminated packaging

Do not reuse container.

14. TRANSPORT INFORMATION

DOT

UN/ID no

Not regulated

Proper shipping name

Not regulated

U.S. Surface Freight Classification:

FERTILIZING COMPOUNDS (MANUFACTURED FERTILIZERS), NOI, LIQUID (NMFC 68140, SUB 6; CLASS 70)



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019

SUPERSEDES: 09/17/2015

15. REGULATORY INFORMATION

<u>NFPA</u>	Health hazards 0	Flammability 0	Instability 0	Physical and Chemical Properties -	
<u>HMIS</u>	Health hazards 0	Flammability 0	Physical hazards 0		Personal protection X
	0 - Least	1 - Slight	2 - Moderate	3 - High	4 - Severe

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Copper Sulfate, Mono - 7758-99-8	1.0

SARA 311/312 Hazard Categories

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

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper Sulfate, Mono 7758-99-8	-	X	-	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. EPA Label Information



SAFETY DATA SHEET

LEAF LIFE LIGNIN COPPER 5%

SDS REVISIONS: ALL SECTIONS DATE OF ISSUE: 09/24/2019

SUPERSEDES: 09/17/2015

16. OTHER INFORMATION

Prepared By Product Stewardship and Regulatory Affairs

Reviewed By Safety, Health and Environment

Issue Date 09/24/2019

Revision Date 09/24/2019

Revision Note

All SDS sections updated

LEAF LIFE LIGNIN COPPER 5% is a registered trademark of Loveland Products, Inc.

Disclaimer

This safety data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.

End of Safety Data Sheet