

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name CIRCA ZMB 1-0-0

Other means of identification

Product Code FRT-00318
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Crop Nutrient.
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 - Inhalation (Dusts/Mists)	Category 3 - (H331)
Skin corrosion/irritation	Category 1 Sub-category B - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Carcinogenicity	Category 1B - (H350)
Reproductive toxicity	Category 1B - (H360)

Label elements



Signal word

DANGER

Hazard statements

H314 - Causes severe skin burns and eye damage
H331 - Toxic if inhaled
H350 - May cause cancer
H360 - May damage fertility or the unborn child



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SUPERSEDES:

Precautionary Statements - Prevention

P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P281 - Use personal protective equipment as required
 P271 - Use only outdoors or in a well-ventilated area
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
 P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P310 - Immediately call a POISON CENTER or doctor/physician
 P363 - Wash contaminated clothing before reuse

Precautionary Statements - Storage

P405 - Store locked up
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

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
Boric Acid	10043-35-3	10 - 30	Repr. 1B (H360FD)	*
Zinc Oxide	1314-13-2	10 - 30	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	*
Manganese Oxide	1344-43-0	10 - 30		*
MEA	141-43-5	5 - 10	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Corr. 1B (H314)	*

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



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4. FIRST AID MEASURES

Description of first aid measures

General advice	Get medical attention if symptoms occur.
Eye contact	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Skin contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Inhalation	Remove to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
Ingestion	Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

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 No specific antidote. Treat symptomatically.

Antidotes No data available

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.



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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. 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. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Incompatible materials None known based on information supplied.



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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 When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.



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9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid Suspension
Appearance	Viscous liquid
Color	Gray
Odor	Mild
Odor threshold	No data available

<u>Property</u>	<u>Values (Remarks - Method)</u>
pH	8.91 (1% solution)
Melting point / freezing point	No data available
Boiling point	No data available
Flash point	No data available
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	1.63 g/ml
Water solubility	No data available
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	2220 cP @ 25 C
Explosive properties	No data available
Oxidizing properties	No data available

Other Information

VOC Content (%)	No data available
Density	13.60lbs/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.



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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.



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11. TOXICOLOGICAL INFORMATION

Acute toxicity of the formulated product:

Chemical Name	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Boric Acid	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.16 mg/L (Rat) 4 h
Zinc Oxide	> 5000 mg/kg (Rat)		
MEA	= 1720 mg/kg (Rat)	= 1 mL/kg (Rabbit) = 1000 mg/kg (Rabbit)	

Chemical Name	Skin corrosion/irritation	Eye damage/irritation	Respiratory sensitization	Skin sensitization
MEA 141-43-5	Category 1			

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

Germ cell mutagenicity

No information available.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Boric Acid 10043-35-3	-	Group 2A	-	X

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Chronic toxicity

Avoid repeated exposure. May cause adverse effects on the bone marrow and blood-forming system.

Target Organ Effects

blood, Central nervous system, Eye damage/irritation, kidney, 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.



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12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Boric Acid 10043-35-3	-	LC50 1020 mg/L 72 h Carassius auratus	EC50 115 - 153 mg/L 48 h Daphnia magna
MEA 141-43-5	EC50 15 mg/L 72 h Desmodosmus subspicatus	LC50 227 mg/L 96 h Pimephales promelas LC50 3684 mg/L 96 h Brachydanio rerio LC50 300 - 1000 mg/L 96 h Lepomis macrochirus LC50 114 - 196 mg/L 96 h Oncorhynchus mykiss LC50 200 mg/L 96 h Oncorhynchus mykiss	EC50 65 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)



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15. REGULATORY INFORMATION

<u>NFPA</u>	Health hazards 2	Flammability 0	Instability 0	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 2	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 %
Zinc Oxide - 1314-13-2	1.0
Manganese Oxide - 1344-43-0	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
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
Zinc Oxide 1314-13-2	-	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



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16. OTHER INFORMATION

Prepared By Product Stewardship and Regulatory Affairs

Reviewed By Safety, Health and Environment

Issue Date 08/01/2019

Revision Date 08/01/2019

Revision Note

New

CIRCA ZMB 1-0-0 is a 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