SAFETY DATA SHEET

Issuing Date 01-Dec-2017 **Revision Date** 01-Dec-2017 **Revision Number** 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Pulverize Weed & Grass Killer**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Weed Killer

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Messinas

Supplier Address 55 Willow St
Washington
NJ
07882
US

Supplier Phone Number Phone:908-320-7009
Fax:908-320-7088

Supplier Email james@messinas.com

Emergency telephone number

Company Emergency Phone Number 908-320-7009

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Label elements, including precautionary statements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health.

Appearance Clear, colorless **Physical state** Liquid **Odor** Soap

Precautionary Statements - Prevention
Not applicable

Precautionary Statements - Response
None

Precautionary Statements - Storage
None

Precautionary Statements - Disposal
None

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity
3.68 % of the mixture consists of ingredient(s) of unknown toxicity

Other information

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION
May cause slight eye irritation

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical name	CAS No	Weight-%	Trade Secret
Third Party Formulation (TP # 1379485)	Trade Secret	1 - 5	*
Third Party Formulation (TP # 1379485)	Trade Secret	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

Eye contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin contact Wash with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Hazardous Combustion Products
Carbon oxides.

Explosion Data
Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8.

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 Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

Conditions for safe storage, including any incompatibilities

Storage Keep container tightly closed.

Incompatible Products Strong oxidizing agents. Acids. Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Third Party Formulation (TP # 1379485)	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m^3 (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m^3 (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m^3	IDLH: 2000 ppm 10% LEL TWA: 980 mg/m^3 TWA: 400 ppm STEL: 500 ppm STEL: 1225 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Liquid		
Appearance	Clear, colorless	**Odor**	Soap
Color	No information available	**Odor Threshold**	Not applicable

Property	**Values**	**Remarks Method**
pH	8	
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	.99	
Water Solubility	Soluble (> .?%)	
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	n/a	
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Strong oxidizing agents. Acids. Chlorinated compounds.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Third Party Formulation (TP # 1379485)	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m³ (Rat) 4 h
Third Party Formulation (TP # 1379485)	= 350 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

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

Sensitization No information available.

Mutagenic Effects No information available.

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

Chemical name	ACGIH	IARC	NTP	OSHA
Third Party Formulation (TP # 1379485)		Group 3		X

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in 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 No known effect based on information supplied.

Target Organ Effects Eyes. Respiratory system. Skin. Blood. Liver. Spleen. Systemic Toxicity. Cardiovascular system. Kidney.

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
93,500.00 mg/kg
ATEmix (inhalation-dust/mist)
121.10 mg/l
ATEmix (inhalation-vapor)
750.00 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Third Party Formulation (TP # 1379485)	96h EC50: > 1000 mg/L (Desmodesmus subspicatus) 72h EC50: > 1000 mg/L (Desmodesmus subspicatus)	96h LC50: > 1400000 µg/L (Lepomis macrochirus) 96h LC50: = 11130 mg/L (Pimephales promelas) 96h LC50: = 9640 mg/L (Pimephales promelas)		48h EC50: = 13299 mg/L
Third Party Formulation (TP # 1379485)		96h LC50: = 8.2 mg/L (Pimephales promelas)		48h EC50: = 0.66 mg/L

Persistence and Degradability
No information available.

Bioaccumulation

Chemical name	Log Pow
Third Party Formulation (TP # 1379485)	0.05

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

California Waste Codes 232

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Third Party Formulation (TP # 1379485)	Toxic Ignitable
Third Party Formulation (TP # 1379485)	Toxic Corrosive

14. TRANSPORT INFORMATION

DOT NOT REGULATED
Proper Shipping Name NON-REGULATED
Hazard Class N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated
Proper Shipping Name NON REGULATED
Hazard Class N/A

IMDG/IMO Not regulated
Hazard Class N/A

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Not determined
DSL Not determined

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

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	CAS No	Weight-%	SARA 313 - Threshold Values %
Third Party Formulation (TP # 1379485) -		1 - 5	1.0
Third Party Formulation (TP # 1379485) -		0.1 - 1	1.0

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

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
Third Party Formulation (TP # 1379485)	1000 lb			X

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive

Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Third Party Formulation (TP # 1379485)	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Third Party Formulation (TP # 1379485)	X	X	X	X	
Third Party Formulation (TP # 1379485)	X	X	X	X	X
Third Party Formulation (TP # 1379485)	X	X	X	X	

EPA Pesticide Registration Number 67702-7-82165

International Regulations

Mexico

National occupational exposure limits

Chemical name	Carcinogen Status	Exposure Limits
Third Party Formulation (TP # 1379485)		Mexico: TWA 400 ppm Mexico: TWA 980 mg/m^3 Mexico: STEL 500 ppm Mexico: STEL 1225 mg/m^3

Mexico - Occupational Exposure Limits - Carcinogens

Canada

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazards** 1	**Flammability** 0	**Physical Hazard** 0	**Personal Protection** X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

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Revision Note No information available

Disclaimer

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

End of Safety Data Sheet

Zhejiang Yonggao Battery Co., Ltd.
浙江永高电池股份有限公司

MATERIAL SAFETY DATA SHEET

Printing date: DEC 20, 2018 Reviewed on: DEC 20, 2018 Expiry date: DEC 31, 2019

SECTION 1 - Product and Company Identification

Product name：ALKALINE BATTERY
Chemical name： ALKALINE ZINC-MANGANESE DRY BATTERY
Chemical formula ： Zn-MnO2
Manufacturer/supplier: ZHEJIANG YONGGAO BATTERY CO., LTD.
ADD.: No. 199, Yonggao Road,South Lake Economic Zone,Jiaxing,Zhejiang, China.
Tel: 0573-83645979 Fax: 0573-83645980

SECTION 2 - Hazards Identification

General advice: The common known rules for handling of chemicals should be obeyed. These chemicals are contained in a sealed steel can. For consumer use, adequate hazard warnings are printed on both the package and the battery. Potential for exposure should not exist unless the battery leaks, is exposed to high temperatures or is mechanically or electrically abused. Concentrated potassium hydroxide contained is caustic. Anticipated potential leakage of potassium hydroxide is 2-20 ml, depending on battery size. Do not eat and drink batteries. Keep batteries away from small children.

Physical-Chemical Hazards: This preparation is not classified as dangerous according to the criteria of directive 99/45/EEC.
Hazards to man: If battery leaking, exposure to caustic ingredients may occur . Therefore, may cause sensitization by skin contract.
Hazards to environment: N.A..

SECTION 3- Information On Ingredients

Chemical name	LR20	LR14	LR6	LR03	6LR61	3LR12	4LR25	4LR25-2 4LR20-2	CAS NO.
AVERAGE WEIGHT	145.0 g	70.0 g	22.8 g	11.4 g	47.0 g	175g	650g	1300g	/
ZINC	17.4%	16.9%	16.2%	13.9%	15.45%	13.4%	15.53%	15.6%	7440-66-6
MANGANESE DIOXIDE	43.09%	41.97%	37.57%	34.31%	36.46%	35.6%	38.45%	38.8%	1313-13-9
CARBON	2.93%	2.65%	3.27%	2.95%	3.29%	2.75%	2.61%	2.78%	/
STEEL	22.07%	21.07%	20.75%	25.89%	24.80%	14.90%	22.91%	29.32%	/
BRASS	1.10%	1.43%	2.41%	4.56%	3.64%	1.03%	0.66%	1.01%	12597-71-6
PLASTIC	1.17%	1.57%	1.71%	1.75%	1.06%	9.74%	2.07%	1.1%	/
PAPER	0.625%	1.36%	0.92%	0.96%	1.21%	0.53%	6.01%	0.82%	/

POTASSIUM HYDROXID	3.66%	4.36%	6.3%	5.6%	5.55%	6.36%	3.27%	3.28%	1310-58-3
WATER	7.03%	7.50%	9.56%	8.51%	5.24%	14.9%	6.27%	6.42%	/
ZINC OXIDE	0.53%	0.50%	0.49%	0.42%	0.45%	0.53%	0.47%	0.51%	1314-13-2
MERCURY	<1ppm	<1ppm	<1ppm	<1ppm	<1ppm	<1ppm	<1ppm	<1ppm	7439-97-6
CADMIUM	<5ppm	<5ppm	<5ppm	<5ppm	<5ppm	<5ppm	<5ppm	<5ppm	7440-43-9
LEAD	<10ppm	<10ppm	<10ppm	<10ppm	<10ppm	<10ppm	<1000 ppm	<1000 ppm	7439-92-1
OTHER	0.39%	0.69%	0.82%	1.15%	2.85%	0.26%	1.75%	0.36%	/

SECTION 4 First-Aid Measures

Inhalation: In case of excessive in halation due to leaking batteries remove to fresh air. Obtain medical advice.

Skin Contact: If exposed to a leaking battery, remove contaminated clothing. Wash exposed areas with plenty of water and soap. IF irritation occurs, consult a physician.

Eye contact: Not anticipated due to size of batteries. Choking may occur with the smaller size batteries. If exposed to a leaking battery, rinse mouth and surrounding areas with running water for at least 15minutes. Give plenty of water to drink. Do not induce vomiting. Obtain medical advice.

SECTION 5 - Fire Fighting Measures

Suitable extinguishing media: Carbon dioxide, foam, dry chemical powder. Extinguishing media not to be used: Never use a direct water jet.

Exposure hazards from combustion products: In case of fire, carbon monoxide and other toxic organic substances will be generated. Do not inhale fumes and smoke.

Personal protective equipment:

Wear full protective clothing. Use self-contained breathing apparatus.

SECTION 6 - Accidental Release Measures

Personal precautions: Notify safety personnel of large spills. Caustic potassium hydroxide may be released from leaking or ruptured batteries. Avoid eye or skin contact and in halation of vapors. Increase the ventilation. Wear protective clothing. Keep unprotected persons away.

Methods for cleaning up: Collect spilled material with an insert standard absorbent like sand or silica. Care for well-ventilated conditions. Recycle or dispose of the materials in an appropriate way.

Environmental precautions: Avoid discharge and penetration into sewerage systems, waterways, pits, and cellars.

SECTION 7 - Handling and Storage

General handling: Obey the common known rules and precautions for handling with chemicals. Avoid mechanical and electrical abuse. Do not s short battery or install incorrectly. Batteries may explode, pyrolyze or vent if disassembled. Crushed, recharged or exposed to high temperatures. Install batteries according to equipment instructions. Do not mix battery systems, such as alkaline and zinc-carbon. Replace all batteries in equipment at the same time. Do not carry batteries loose in pocket or bag. Do not remove battery labels.
Storage: Store product in well-filled, appropriate coated and tightly closed containers avoiding influence of oxygen/air, light and humidity, storage at room temperate.

SECTION 8 - Exposure Control/PPE

Exposition/Technical measures: Atmospheric vapor concentrations must be minimized by adequate ventilation.
Protection of hands, eyes and skin: None required under normal use conditions. When handling leaking batteries, use neoprene, rubber or nitrile gloves and wear safety glasses to protect hands, eyes and skin.
General safety and hygiene measures: use only as directed.

SECTION 9 Physical / Chemical Properties

Physical state: Stainless steel top battery Colour: Contents dark and gray in colour
Odour: N.A.
Melting point: N.A.
Boiling point: N.A.
Flash point: N.A.
Explosion limit: Not available
Ignition temperature: Not available
Vapor pressure: Not available
Specific gravity: N.A. *Solubility in water:* N.A.
Solubility in other solvents: N.A.
PH valve: Not available
Partition coefficient: Not available
Viscosity: Not available

SECTION 10 - Stability and Reactivity

Thermal decomposition: batteries may burst and release hazardous decomposition products when exposed to fire.
Substances to avoid: Strong Oxidation agents.
Hazardous reactions: Contents incompatible with strong oxidizing agents.
Hazardous decomposition products: Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas; caustic vapors of

potassium hydroxide and other toxic by-products.

SECTION 11 - Toxicological Information

Toxicity information is available on the battery ingredients noted in Section 2, but in general, N.A. to intact batteries. *Chronic health effects:* N.A.

SECTION 12 - Ecological Information

Toxicity:
Not data available.
Persistence and degradability:
Not data available.
Bioaccumulative potential:
No data available.
Mobility in soil:
No data available.

SECTION 13 - Disposal Consideration

Product: Dispose in accordance with appropriate regulations. If in doubt, contact your local government office concerned for information. Do not incinerate, since batteries may explode at excessive temperatures.

SECTION 14 - Transport Information

The batteries are securely packed and protected against short-circuits. The “dry battery” is non-dangerous goods according to IMO IMDG CODE and meets both sea and air shipping standards. These batteries are not regulated by international agencies as hazardous materials or dangerous goods when shipped. A shipping name of “zinc-manganese dry battery” may be used on all domestic and international bills of lading. The batteries are fulfill IATA DGR 59th Edition requirement.
RID/ADR:Non-Hazardous for Transport:This substance is considered to be non-hazardous for transport.
IATA:Non-Hazardous for Air Transport:Non-hazardous for air transport.
IMO:Non-Hazardous for Sea Transport:Non-hazardous for sea transport.

SECTION 15 - Regulatory Information

Symbol: N/A
EC labeling: None
Risk phrases: None
Safety phrases: None
Labeling is not required because alkaline batteries are classified as “articles” under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.

SECTION 16 - Other Information

The information on this Material Safety Data Sheet(MSDS) was obtained form current and reputable sources. However, the data is provided without any warranty; expressed or implied, regarding its correctness or accuracy. It is the user's responsibility to assume liability on loss, injury, damage, or expense resulting from improper use of this product. Any previous MSDS of this product mentioned above are hereby replaced with this new document. We urge you to make this information available as appropriate in your organization and to any others with whom you arrange to handle this product.