SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200 **NO:20201119**

Version 1 **Issue Date** **2**-Jan-2020
Product Name **warriors** Carbon Zinc Battery - R03P **Revision date** **2**-Jan-2020

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

Product identifier

Product Name	Warriors Carbon Zinc Battery - R03P
Chemical Name	Warriors Carbon Zinc Battery

Other means of identification

Product Code	Warriors R03P 1.5V 200mAh

Recommended use of the chemical and restrictions on use

Recommended Use	Power supply
Uses advised against	No information available

Details of the supplier of the safety data sheet

Supplier	SUZHOU XINLVZHOU ELECTRONICS CO., LTD
Address	Yangcheng Lake West Road, No777, Xiangcheng District, SuZhou City, Jiangsu Province, China.
Postal Code	+86-512-68702665
Phone	+86-512-68669435
FAX	qky006@lvzhoudianzi.com.cn
Supplier	SUZHOU XINLVZHOU ELECTRONICS CO., LTD

Emergency telephone number

+86-512-68702665

2. HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Symbols/Pictograms	None
Signal word	None
Hazard Statements	None
Precautionary Statements	
Prevention	None
Response	None
Storage	None
Disposal	None

Hazards not otherwise classified (HNOC)

No information available

Unknown acute toxicity

.?% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature Mixture

Chemical Name	CAS No	Weight-%
Zinc	7440-66-6	25 - 31
Manganese dioxide	1313-13-9	25 - 35
Water	7732-18-5	13 - 17
Carbon	7440-44-0	9 - 12
Zinc chloride	7646-85-7	3 - 7
Polypropylene	9003-07-0	2 - 3
Iron	7439-89-6	1.5
Ammonium chloride	12125-02-9	1.3
Copper	7440-50-8	1

4. FIRST AID MEASURES

Description of first aid measures

General advice: Remove contaminated clothing and shoes. If symptoms persist, call a physician.

Inhalation: Not an expected route of exposure. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin Contact: Wash hands thoroughly after handling. .

Eye contact: Not an expected route of exposure. .

Ingestion: Rinse mouth Get medical attention Never give anything by mouth to an unconscious person

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors

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

Evacuate personnel to safe areas
Ensure adequate ventilation, especially in confined areas
Remove all sources of ignition
Use personal protection recommended in Section 8

Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so
Pick up and transfer to properly labeled containers

Avoid release to the environment

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice
Ensure adequate ventilation, especially in confined areas
Avoid creating dust
Avoid contact with eyes
Wash thoroughly after handling
Use personal protection recommended in Section 8

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place
Keep away from heat

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Denmark	European Union
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.02 mg/m³ Mn TWA: 0.1 mg/m³ Mn	(vacated) Ceiling: 5 mg/m³ Ceiling: 5 mg/m³ Mn	IDLH: 500 mg/m³ Mn TWA: 1 mg/m³ Mn STEL: 3 mg/m³ Mn	TWA: 0.2 mg/m³	-
Zinc chloride (CAS #: 7646-85-7)	STEL: 2 mg/m³ fume TWA: 1 mg/m³ fume	TWA: 1 mg/m³ fume (vacated) TWA: 1 mg/m³ fume (vacated) STEL: 2 mg/m³ fume	IDLH: 50 mg/m³ fume TWA: 1 mg/m³ fume STEL: 2 mg/m³ fume	TWA: 0.5 mg/m³	-
Ammonium chloride (CAS #: 12125-02-9)	STEL: 20 mg/m³ fume TWA: 10 mg/m³ fume	(vacated) TWA: 10 mg/m³ fume (vacated) STEL: 20 mg/m³ fume	TWA: 10 mg/m³ fume STEL: 20 mg/m³ fume	TWA: 10 mg/m³	-
Copper (CAS #: 7440-50-8)	TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist	-	-	TWA: 1.0 mg/m³ TWA: 0.1 mg/m³	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Zinc (CAS #: 7440-66-6)		-	-	TWA: 0.1 mg/m³ TWA: 2 mg/m³ Ceiling / Peak: 0.4 mg/m³ Ceiling / Peak: 4 mg/m³	-
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m³	-	TWA: 0.2 mg/m³ TWA: 0.1 mg/m³	TWA: 0.2 mg/m³ TWA: 0.02 mg/m³ Ceiling / Peak: 1.6 mg/m³ Ceiling / Peak: 0.16 mg/m³ TWA: 0.5 mg/m³	-
Zinc chloride (CAS #: 7646-85-7)		TWA: 1 mg/m³	TWA: 1 mg/m³	TWA: 0.1 mg/m³ TWA: 2 mg/m³ Ceiling / Peak: 2 mg/m³ Ceiling / Peak: 0.4 mg/m³ Ceiling / Peak: 4 mg/m³	-
Ammonium chloride (CAS #: 12125-02-9)	TWA: 10 mg/m³	TWA: 10 mg/m³	-	-	-

Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands

Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m^3	TWA: 0.2 mg/m^3	TWA: 0.2 mg/m^3	TWA: 0.5 mg/m^3	-
Zinc chloride (CAS #: 7646-85-7)	STEL: 2 mg/m^3 TWA: 1 mg/m^3	STEL: 2 mg/m^3 TWA: 1 mg/m^3	STEL: 2 mg/m^3 TWA: 1 mg/m^3	TWA: 1 mg/m^3	-
Ammonium chloride (CAS #: 12125-02-9)	STEL: 20 mg/m^3 TWA: 10 mg/m^3	STEL: 20 mg/m^3 TWA: 10 mg/m^3	STEL: 20 mg/m^3 TWA: 10 mg/m^3	TWA: 3 mg/m^3	-

Chemical Name	Norway	United Kingdom	Australia	Austria	Belgium
Manganese dioxide (CAS #: 1313-13-9)	TWA: 1 mg/m^3 TWA: 0.1 mg/m^3 STEL: 3 ppm STEL: 0.3 mg/m^3	TWA: 0.5 mg/m^3	1 mg/m^3	STEL 2 mg/m^3 TWA: 0.5 mg/m^3	-
Carbon (CAS #: 7440-44-0)	-	-	-	TWA: 5 mg/m^3	-
Zinc chloride (CAS #: 7646-85-7)	TWA: 1 mg/m^3 STEL: 3 mg/m^3	STEL: 2 mg/m^3 TWA: 1 mg/m^3	1 mg/m^3 2 mg/m^3 STEL	-	-
Ammonium chloride (CAS #: 12125-02-9)	TWA: 10 mg/m^3 STEL: 20 mg/m^3	STEL: 20 mg/m^3 TWA: 10 mg/m^3	10 mg/m^3 20 mg/m^3 STEL	-	-
Copper (CAS #: 7440-50-8)	-	-	1 mg/m^3 0.2 mg/m^3	STEL 4 mg/m^3 STEL 0.4 mg/m^3 TWA: 1 mg/m^3 TWA: 0.1 mg/m^3	-

Appropriate engineering controls

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hand Protection	Wear protective gloves.
Eye/face protection	No special technical protective measures are necessary.
Skin and body protection	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color	metallic
Odor	Odorless
Odor Threshold	Not determined
pH	Not determined
Melting point/freezing point	Not determined
Boiling point / boiling range	Not determined
Flash point	Not applicable
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Flammability Limit in Air	Not determined
Vapor Pressure	Not applicable
Vapor density	Not determined
Density	Not determined
Relative density	Not determined
Bulk density	Not determined
Specific gravity	Not determined
Water solubility	Not determined
Partition coefficient (LogPow)	Not determined

Autoignition temperature	Not determined
Decomposition temperature	Not determined
Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

Other information

No information available

10. STABILITY AND REACTIVITY

Reactivity

Stable under recommended storage and handling conditions (see SECTION 7, handling and storage).

Chemical stability

Stable under normal conditions

Possibility of Hazardous Reactions

None under normal processing

Conditions to avoid

Strong heating. Incompatible materials

Incompatible materials

Strong acids Strong bases Strong oxidizing agents

Hazardous Decomposition Products

None known based on information supplied

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Inhalation of vapors in high concentration may cause irritation of respiratory system
Eye Contact	Contact with eyes may cause irritation
Skin Contact	Substance may cause slight skin irritation
Ingestion	Ingestion may cause irritation to mucous membranes

Information on toxicological effects

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide (CAS #: 1313-13-9)	= 9000 mg/kg (Rat)	-	-
Zinc chloride (CAS #: 7646-85-7)	= 350 mg/kg (Rat)	-	-
Polypropylene (CAS #: 9003-07-0)	>5 g/kg	-	-
Iron (CAS #: 7439-89-6)	98.6 g/kg bw (rat)	-	-
Ammonium chloride (CAS #: 12125-02-9)	= 1410 mg/kg (Rat)	> 2000 mg/kg bw	-
Copper (CAS #: 7440-50-8)	> 2500 mg/kg bw(rat)	> 2000 mg/kg bw(rat)	=1.03 mg/L/4 h(rat)

Skin corrosion/irritation

Non-irritating to the skin

Serious eye damage/eye irritation
No eye irritation

Sensitization
No information available

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

Aspiration hazard
No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Zinc (CAS #: 7440-66-6)	0.11 - 0.271 mg/L/96h Pseudokirchneriella subcapitata static 0.09 - 0.125 mg/L/72h Pseudokirchneriella subcapitata static	2.16 - 3.05 mg/L/96h Pimephales promelas flow-through 0.211 - 0.269 mg/L/96h Pimephales promelas semi-static 2.66: mg/L/96h Pimephales promelas static 30 mg/L/96h Cyprinus carpio 0.45 mg/L/96h Cyprinus carpio semi-static 7.8 mg/L/96h Cyprinus carpio static 3.5 mg/L/96h Lepomis macrochirus static 0.24 mg/L/96h Oncorhynchus mykiss flow-through 0.59 mg/L/96h Oncorhynchus mykiss semi-static 0.41 mg/L/96h Oncorhynchus mykiss static	0.139 - 0.908 mg/L/48h Daphnia magna Static
Iron (CAS #: 7439-89-6)	-	-	> 100 mg/L/48h (Daphnia magna)
Ammonium chloride (CAS #: 12125-02-9)	1300 mg/L/5d (Chlorella vulgaris) 90.4 mg/L/5d(Navicula sp.)	209 mg/L/96h(Cyprinus carpio) 174 mg/L/96h	101 mg/L/48h(Daphnia magna)

Copper (CAS #: 7440-50-8)	0.031 - 0.054 mg/L/96h Pseudokirchneriella subcapitata static 0.0426 - 0.0535 mg/L/72h Pseudokirchneriella subcapitata static	-	-

Persistence and degradability

No information available

Bioaccumulative potential

Chemical Name	Partition coefficient (LogPow)
Manganese dioxide (CAS #: 1313-13-9)	<0
Ammonium chloride (CAS #: 12125-02-9)	-3.2

Chemical Name	Bioconcentration factor (BCF)
Zinc chloride (CAS #: 7646-85-7)	16000

Mobility in soil

No information available

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated packaging: Dispose of in accordance with federal, state and local regulations

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

Chemical Name	California Hazardous Waste Status
Zinc 7440-66-6	Ignitable powder Toxic
Zinc chloride 7646-85-7	Toxic Corrosive
Copper 7440-50-8	Toxic

14. TRANSPORT INFORMATION

The batteries are considered to be "Dry cell" batteries and are unregulated for purpose of transportation by the U.S. DOT, ICAO, IATA and IMDG. The only DOT requirement for shipping these batteries is special provision 130 which states : " Batteries, dry are not subject to the requirements of this subchapter only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (For example, by the effective insulation of exposed terminals). The only requirement for shipping these batteries by ICAO and IATA is Special Provision A123 which states: " An electrical battery or battery powered device having the potential of dangerous evolutions of heat that is not prepared so as to prevent a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals) is forbidden from transportation." The international Maritime Dangerous Goods Code (IMDG) regulate them for ocean transportation under Special Provision A123 which says : Batteries, dry , containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the provision of this Code provided the batteries are securely packed and protected against short-circuits. Example of such batteries are : alkali-manganese, zinc carbon, nickel metal hydride and nickel-cadmium batteries. Such battery have been packed in inner packaging in such a manner as to effectively prevent short circuit and movement that could lead to short-circuit.

References: IATA Dangerous Goods Regulations 61th Edition(2020)
IMO International Maritime Dangerous Goods Code 2016 Edition

DOT / IMDG / IATA

UN/ID No.	Not regulated
Proper shipping name	Not regulated
Hazard Class	Not regulated
Packing Group	Not regulated
Special precautions	No information available
Marine pollutant	Not applicable
UN/ID No.	Not Regulated
UN/ID No.	Not Regulated
UN/ID No.	Not Regulated

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	TSCA
Zinc 7440-66-6	X	X	X	-	X	X	X	X
Manganese dioxide 1313-13-9	X	X	X	X	X	X	X	X
Water 7732-18-5	X	X	X	-	X	X	X	X
Carbon 7440-44-0	X	X	X	-	X	X	X	X
Zinc chloride 7646-85-7	X	X	X	X	X	X	X	X
Polypropylene 9003-07-0	X	X	-	X	X	X	X	X
Iron 7439-89-6	X	X	X	-	X	X	X	X
Ammonium chloride 12125-02-9	X	X	X	X	X	X	X	X
Copper 7440-50-8	X	X	X	-	X	X	X	X

"-" Not Listed
"X" Listed

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 - 7440-66-6	1.0
Manganese dioxide - 1313-13-9	1.0
Zinc chloride - 7646-85-7	1.0
Ammonium chloride - 12125-02-9	1.0

SARA 311/312 Hazard Categories

Does not apply

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 7440-66-6	-	X	X	-
Zinc chloride 7646-85-7	1000 lb	X	-	X
Ammonium chloride 12125-02-9	5000 lb	-	-	X
Copper 7440-50-8	-	X	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	CERCLA/SARA RQ	Reportable Quantity (RQ)
Zinc 7440-66-6	1000 lb	-	RQ 454 kg final RQ RQ 1000 lb final RQ
Zinc chloride 7646-85-7	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Ammonium chloride 12125-02-9	5000 lb	-	RQ 5000 lb final RQ RQ 2270 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
Manganese dioxide 1313-13-9	X	-	X
Zinc 7440-66-6	X	X	X
Zinc chloride 7646-85-7	X	X	X
Ammonium chloride 12125-02-9	X	X	X

16. OTHER INFORMATION

Revision Note

Issue Date	2-Jan-2020
Revision date	2-Jan-2020
Revision Note	Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA - TWA (time-weighted average)
STEL - STEL (Short Term Exposure Limit)
Ceiling - Maximum limit value
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Disclaimer

The information provided in this Material 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 materia used in combination with any other materials or in any process, unless specified in the text.

-------- End of Safety Data Sheet --------