

SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1
Product Name Carbon zinc battery

Issue Date 10-Mar-2015
Revision date 10-Mar-2015

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

Product identifier

Product Name Carbon zinc battery

Other means of identification

Product No. AAA R03P

Recommended use of the chemical and restrictions on use

Recommended Use Used as battery in electric appliance like MP4, CD, MD, razor, electric toys, calculator, camera, electronic organizer, instrumentation, flash, wireless mouse, etc.

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier DONGGUAN GUANTE ELECTRONICS TECHNOLOGY CO.,LTD
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+86-13912779466

2. HAZARDS IDENTIFICATION

GHS Classification

Not classified.

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)

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. The most likely risk is acute exposure when a battery vents. Leaking material exposure to skin, eyes may cause irritation. Inhalation of fumes may cause respiratory irritation.

Unknown acute toxicity

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Chemical nature** Mixture

Chemical Name	CAS No	Weight-%
Manganese dioxide	1313-13-9	25 - 35
Zinc	7440-66-6	25 - 31
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	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Inhalation	If contents of an opened battery are inhaled, remove source of contamination or move victim to fresh air. Obtain medical advice.
Skin Contact	If skin contact with contents of an open battery occurs, as quickly as possible remove contaminated clothing, shoes and leather goods. Immediately flush with lukewarm, gently flowing water for at least 15 minutes. If irritation or pain persists, seek medical attention. Completely decontaminate clothing, shoes and leather goods before reuse or discard.
Eye contact	If eye contact with contents of an open battery occurs, immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 15 minutes while holding the eyelids open. Neutral saline solution may be used as soon as it is available. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto face. Quickly transport victim to an emergency care facility.
Ingestion	If ingestion of contents of an open battery occurs, never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 60 to 240 mL (2-8 oz.) of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Quickly transport victim to an emergency care facility.

Most important symptoms and effects, both acute and delayed

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. The most likely risk is acute exposure when a battery vents. Leaking material exposure to skin, eyes may cause irritation. Inhalation of fumes may cause respiratory irritation. See Section 11 for more information.

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. Remove all sources of ignition. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not touch or walk through spilled material. Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up

Prevent material from contaminating soil and from entering sewers or waterways. Stop the leak if safe to do so. Pick up and transfer to properly labeled containers

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. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Use personal protection recommended in Section 8. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

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**

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

Chemical Name	Latvia	France	Finland	Germany	Italy
Zinc (CAS #: 7440-66-6)		-	-	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³ Ceiling / Peak: 4 mg/m ³	-

Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m ³	-	TWA: 0.2 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³ Ceiling / Peak: 1.6 mg/m ³ Ceiling / Peak: 0.16 mg/m ³ TWA: 0.5 mg/m ³	-
Zinc chloride (CAS #: 7646-85-7)		TWA: 1 mg/m ³	TWA: 1 mg/m ³	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Ceiling / Peak: 2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³ Ceiling / Peak: 4 mg/m ³	-
Ammonium chloride (CAS #: 12125-02-9)	TWA: 10 mg/m ³	TWA: 10 mg/m ³	-	-	-

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

Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor.

Individual protection measures, such as personal protective equipment

- Respiratory protection Not necessary under normal conditions. 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 Not necessary under normal conditions. Wear neoprene or natural rubber material gloves if handling an open or leaking battery.
- Eye/face protection Not necessary under normal conditions, Wear safety glasses if handling an open or leaking battery.
- Skin and body protection Not necessary under normal conditions, Wear neoprene or nitrile rubber gloves if handling an open or leaking battery.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

- Appearance Solid
- Color No information available
- Odor No information available
- Odor Threshold Not determined
- pH Not determined
- Melting point/freezing point Not determined

Boiling point / boiling range	Not determined
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Flammability Limit in Air	Not determined
Vapor Pressure	Not determined
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

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**Information on likely routes of exposure**

Inhalation	No information available
Eye Contact	No information available
Skin Contact	No information available
Ingestion	No information available

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

Chemical Name	ACGIH	IARC	NTP	OSHA
Polypropylene (CAS #:9003-07-0)	-	Group 3	-	-

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
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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

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

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELI NCS	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

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

Not applicable

CWA (Clean Water Act)

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	-
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CERCLA

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

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	14-Jul-2016
Revision date	14-Jul-2016
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/NDL - 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 material used in combination with any other materials or in any process, unless specified in the text.

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