

# SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1  
Product Name Alkaline battery

Issue Date 28-Feb-2017  
Revision date 28-Feb-2017

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

### Product identifier

Product Name Alkaline battery

### Other means of identification

Product Type 1.5V/9V

### Recommended use of the chemical and restrictions on use

Recommended Use Flashlight, Radio, Toy, Remote control, Digital camera, Recorder, Razor, Calculator etc.

Uses advised against No information available

### Details of the supplier of the safety data sheet

Supplier NINGBO OSEL BATTERY CO.,LTD  
Address NO.38, LANE 383, YANGGUANG ROAD, SONGJIACAO, GAOQIAO TOWN, YINZHOU DISTRICT, NINGBO, CHINA  
Postal Code 315174  
Phone +86-574-88440668  
FAX +86-574-88440686  
E-mail dept3@ningbobattery.com

### Emergency telephone number

+86-574-88440647

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Not classified.

The product is an article and the hazardous compositions will not leak under normal use.

### Label elements

Symbols/Pictograms Not applicable  
Signal word None  
Hazard Statements Not classified  
Precautionary Statements Not applicable

### Hazards not otherwise classified (HNOC)

No information available

### Unknown acute toxicity

51.4% of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Chemical nature

Mixture

Chemical Name	CAS No	Weight-%
Manganese dioxide	1313-13-9	15 - 40
Zinc	7440-66-6	10 - 30
Iron	7439-89-6	10 - 30
Water	7732-18-5	1 - 5
Graphite	7782-42-5	1 - 5
brass	12597-71-6	1 - 5

Potassium hydroxide	1310-58-3	1 - 5
Zinc oxide	1314-13-2	1 - 5
PVC (Chloroethylene, polymer)	9002-86-2	0.1 - 1
Nylon-66	32131-17-2	0.1 - 1
Polyethylene	9002-88-4	0.1 - 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 fumes from reactions are inhaled, move to fresh air immediately. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen.
Skin Contact	In case of contact with substance, keep exposed skin areas immersed in water or covered with wet bandages until medical attention is received.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth.

### 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

- Ensure adequate ventilation, especially in confined areas
- Avoid contact with skin, eyes or clothing
- Do not touch or walk through spilled material
- Use personal protection recommended in Section 8
- Avoid breathing vapors or mists
- Evacuate personnel to safe areas

### 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

## 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 contact with skin, eyes or clothing  
 Wash contaminated clothing before reuse  
 Take precautionary measures against static discharges  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 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**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese dioxide 1313-13-9	TWA: 0.02 mg/m <sup>3</sup> Mn TWA: 0.1 mg/m <sup>3</sup> Mn	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn
Graphite 7782-42-5	TWA: 2 mg/m <sup>3</sup> respirable fraction all forms except graphite fibers	-	-
brass 12597-71-6	TWA: 1 mg/m <sup>3</sup> Cu dust and mist	-	-
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m <sup>3</sup>	(vacated) Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>
Zinc oxide 1314-13-2	STEL: 10 mg/m <sup>3</sup> respirable fraction TWA: 2 mg/m <sup>3</sup> respirable fraction	TWA: 5 mg/m <sup>3</sup> fume TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> fume (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) STEL: 10 mg/m <sup>3</sup> fume	IDLH: 500 mg/m <sup>3</sup> Ceiling: 15 mg/m <sup>3</sup> dust TWA: 5 mg/m <sup>3</sup> dust and fume STEL: 10 mg/m <sup>3</sup> fume
PVC (Chloroethylene, polymer) 9002-86-2	TWA: 1 mg/m <sup>3</sup> respirable fraction	-	-

**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 Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state** Soild  
**Appearance** Colorful Soild  
**Color** Colorful  
**Odor** Odorless  
**Odor Threshold** No information available

<b>pH</b>	No information available
<b>Melting point/freezing point</b>	No information available
<b>Boiling point / boiling range</b>	No information available
<b>Flash point</b>	No information available
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	No information available
<b>Vapor Pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Density</b>	No information available
<b>Bulk density</b>	No information available
<b>Specific gravity</b>	No information available
<b>Water solubility</b>	No information available
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Kinematic viscosity</b>	No information available
<b>Dynamic viscosity</b>	No information available
<b>Explosive properties</b>	Not an explosive
<b>Oxidizing properties</b>	Not applicable

**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 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****Information on likely routes of exposure**

Inhalation	No data available
Eye contact	No data available
Skin Contact	No data available
Ingestion	No data available

**Information on toxicological effects****Acute toxicity**

51.4% of the mixture consists of ingredient(s) of unknown toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
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Manganese dioxide 1313-13-9	= 9000 mg/kg ( Rat )	-	-
Potassium hydroxide 1310-58-3	= 214 mg/kg ( Rat )	-	-
Zinc oxide 1314-13-2	> 5000 mg/kg ( 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**

70.2% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Zinc 7440-66-6	0.11 - 0.271: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 0.09 - 0.125: 72 h Pseudokirchneriella subcapitata mg/L EC50 static	2.16 - 3.05: 96 h Pimephales promelas mg/L LC50 flow-through 0.211 - 0.269: 96 h Pimephales promelas mg/L LC50 semi-static 2.66: 96 h Pimephales promelas mg/L LC50 static 30: 96 h Cyprinus carpio mg/L LC50 0.45: 96 h Cyprinus carpio mg/L LC50 semi-static 7.8: 96 h Cyprinus carpio mg/L LC50 static 3.5: 96 h Lepomis macrochirus mg/L LC50 static 0.24: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.59: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.41: 96 h Oncorhynchus mykiss mg/L LC50 static	0.139 - 0.908: 48 h Daphnia magna mg/L EC50 Static
Potassium hydroxide 1310-58-3	-	80: 96 h Gambusia affinis mg/L LC50 static	-

**Persistence and degradability**

No information available

**Bioaccumulative potential**

No information available

Chemical Name	Partition coefficient
Manganese dioxide 1313-13-9	<0
Potassium hydroxide 1310-58-3	0.83

**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

Chemical Name	California Hazardous Waste Status
Zinc 7440-66-6	Ignitable powder Toxic
brass 12597-71-6	Toxic
Potassium hydroxide 1310-58-3	Toxic Corrosive
Zinc oxide 1314-13-2	Toxic

**14. TRANSPORT INFORMATION**

<b>UN/ID No.</b>	Not regulated
<b>Proper shipping name</b>	Not regulated
<b>Hazard Class</b>	Not regulated
<b>Packing Group</b>	Not regulated
<b>Special Provisions</b>	None
<b>Marine pollutant</b>	Not applicable

**15. REGULATORY INFORMATION****International Inventories**

Component	AICS	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA
Manganese dioxide 1313-13-9 ( 15 - 40 )	X	X	X	X	X	X	X	X
Zinc 7440-66-6 ( 10 - 30 )	X	X	X	X	X	X	X	X

Iron 7439-89-6 ( 10 - 30 )	X	X	X	X	X	X	X	X
Water 7732-18-5 ( 1 - 5 )	X	X	X	X	X	X	X	X
Graphite 7782-42-5 ( 1 - 5 )	X	X	X	X	X	X	X	X
brass 12597-71-6 ( 1 - 5 )	-	-	-	-	X	-	X	-
Potassium hydroxide 1310-58-3 ( 1 - 5 )	X	X	X	X	X	X	X	X
Zinc oxide 1314-13-2 ( 1 - 5 )	X	X	X	X	X	X	X	X
PVC (Chloroethylene, polymer) 9002-86-2 ( 0.1 - 1 )	X	X	X	X	X	X	X	X
Nylon-66 32131-17-2 ( 0.1 - 1 )	X	X	-	X	X	X	X	X
Polyethylene 9002-88-4 ( 0.1 - 1 )	X	X	-	X	X	X	X	X

**US Federal Regulations  
SARA 313**

**SARA 311/312 Hazard Categories**

**CWA (Clean Water Act)**

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc 7440-66-6	-	X	X	-
brass 12597-71-6	-	X	-	-
Potassium hydroxide 1310-58-3	1000 lb	-	-	X
Zinc oxide 1314-13-2	-	X	-	-

**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
Potassium hydroxide 1310-58-3	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

**US State Regulations  
California Proposition 65**

**U.S. State Right-to-Know Regulations**

**16. OTHER INFORMATION**

**Revision Note**

Issue Date 28-Feb-2017  
 Revision date 28-Feb-2017  
 Revision Note Not applicable

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

**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.

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