SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1 **Issue Date** 28-Feb-2017
Product Name Alkaline battery **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^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
Graphite 7782-42-5	TWA: 2 mg/m^3 respirable fraction all forms except graphite fibers	-	-
brass 12597-71-6	TWA: 1 mg/m^3 Cu dust and mist	-	-
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m^3	(vacated) Ceiling: 2 mg/m^3	Ceiling: 2 mg/m^3
Zinc oxide 1314-13-2	STEL: 10 mg/m^3 respirable fraction TWA: 2 mg/m^3 respirable fraction	TWA: 5 mg/m^3 fume TWA: 15 mg/m^3 total dust TWA: 5 mg/m^3 respirable fraction (vacated) TWA: 5 mg/m^3 fume (vacated) TWA: 10 mg/m^3 total dust (vacated) TWA: 5 mg/m^3 respirable fraction (vacated) STEL: 10 mg/m^3 fume	IDLH: 500 mg/m^3 Ceiling: 15 mg/m^3 dust TWA: 5 mg/m^3 dust and fume STEL: 10 mg/m^3 fume
PVC (Chloroethylene, polymer) 9002-86-2	TWA: 1 mg/m^3 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

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

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 components(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

UN/ID No. Not regulated

Proper shipping name Not regulated

Hazard Class Not regulated

Packing Group Not regulated

Special Provisions None

Marine pollutant Not applicable

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELINCS	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/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 material used in combination with any other materials or in any process, unless specified in the text.

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