

Material Safety Data Sheet

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Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Alkaline battery

Recommended Use Alkaline battery.

Supplier Address

Huizhou DeAnDa Battery Co.,Ltd
168, GUTANGAO Industrial Park
Huizhou
Guangdong
516001
CN
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2. HAZARDS IDENTIFICATION

Emergency Overview

This product is an article. No exposure to hazardous chemicals is expected to occur during intended product use.
Misuse of the product may result in exposure to hazardous chemicals.

Appearance Clear to yellow

Physical State Solid/Powder, Solid.

Odor Green

Potential Health Effects

Principle Routes of Exposure

Eye contact. Skin contact.

Acute Toxicity

Eyes

In case of rupture: Corrosive to the eyes and may cause severe damage including blindness.

Skin

In case of rupture: Causes burns.

Inhalation

In case of rupture: May be harmful if inhaled. Causes burns.

Ingestion

In case of rupture: Ingestion causes burns of the upper digestive and respiratory tract. Can burn mouth, throat, and stomach.

Chronic Effects

No known effect based on information supplied.

Aggravated Medical Conditions

None known.

Interactions with Other Chemicals

Use of alcoholic beverages may enhance toxic effects.

Environmental Hazard

See Section 12 for additional Ecological Information. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Supplier Trade Secret	Proprietary	40-70
Supplier Trade Secret	Proprietary	40-70

Supplier Trade Secret	Proprietary	3-7
Supplier Trade Secret	Proprietary	3-7
Supplier Trade Secret	Proprietary	1 - 5
Supplier Trade Secret	Proprietary	0.1 - 1
Supplier Trade Secret	Proprietary	0.1 - 1

4. FIRST AID MEASURES

General Advice	This is a battery. In case of rupture:
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.
Skin Contact	Call a physician immediately. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Call a physician or Poison Control Center immediately.
Ingestion	Do NOT induce vomiting. Call a physician or Poison Control Center immediately.
Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable.
Flash Point	Not determined.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Hazardous Combustion Products	Hazardous metal fumes and 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.

NFPA	Health Hazard 1	Flammability 0	Stability 0	Physical and Chemical Hazards -
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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid contact with skin, eyes and clothing.
Environmental Precautions	Refer to protective measures listed in Sections 7 and 8.
Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up	Use personal protective equipment. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

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Handling	In case of rupture: Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Avoid contact with skin, eyes and clothing.
Storage	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Supplier Trade Secret	TWA: 0.2 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
Supplier Trade Secret	TWA: 2 mg/m ³ respirable fraction all forms except graphite fibers	TWA: 15 mg/m ³ total dust synthetic TWA: 5 mg/m ³ total dust synthetic (vacated) TWA: 2.5 mg/m ³ respirable dust natural (vacated) TWA: 10 mg/m ³ total dust synthetic (vacated) TWA: 5 mg/m ³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m ³ TWA: 2.5 mg/m ³ respirable dust
Supplier Trade Secret	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
Supplier Trade Secret			Ceiling: 2500 ppm Ceiling: 2662 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).

Engineering Measures Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment

Eye/Face Protection
Skin and Body Protection
Respiratory Protection

Tightly fitting safety goggles.
No special protective equipment required.
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. When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear to yellow.	Odor	Green.
Odor Threshold	No information available	Physical State	Solid/Powder Solid
pH	No information available		
Flash Point	No information available.	Autoignition Temperature	No information available
Decomposition Temperature	No information available	Boiling Point/Range	No information available
Melting Point/Range	No information available		
Flammability Limits in Air	No information available	Explosion Limits	No information available
Water Solubility	Immiscible in water	Solubility	No information available
Evaporation Rate	No information available	Vapor Pressure	No data available
Vapor Density	No data available	Partition Coefficient: n-octanol/water	

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible Products	Strong oxidizing agents. Acids. Bases.
Conditions to Avoid	Excessive heat. Protect from moisture
Hazardous Decomposition Products	Metal oxides.
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Supplier Trade Secret	= 9000 mg/kg (Rat)	-	-
Supplier Trade Secret	> 10000 mg/kg (Rat)	-	-
Supplier Trade Secret	> 5000 mg/kg (Rat)	-	-

Chronic Toxicity

Chronic Toxicity	No known effect based on information supplied.
Target Organ Effects	Blood. Central nervous system (CNS). Central Vascular System (CVS). Kidney. Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Supplier Trade Secret	EC50: 0.09 - 0.125 mg/L (72 h static) Pseudokirchneriella subcapitata EC50: 0.11 - 0.271 mg/L (96 h static) Pseudokirchneriella subcapitata	LC50: 2.16-3.05 mg/L (96 h flow-through) Pimephales promelas LC50: 7.8 mg/L (96 h static) Cyprinus carpio LC50: 0.45 mg/L (96 h semi-static) Cyprinus carpio LC50: 30 mg/L (96 h) Cyprinus carpio LC50: 0.59 mg/L (96 h semi-static) Oncorhynchus mykiss LC50: 0.41 mg/L (96 h static) Oncorhynchus mykiss LC50: 3.5 mg/L (96 h static) Lepomis macrochirus LC50: 0.211-0.269 mg/L (96 h semi-static) Pimephales promelas LC50: 0.24 mg/L (96 h flow-through) Oncorhynchus mykiss LC50: 2.66 mg/L (96 h static) Pimephales promelas		EC50: 0.139 - 0.908 mg/L (48 h Static) Daphnia magna

Chemical Name	Log Pow
Supplier Trade Secret	0
Supplier Trade Secret	0.32

13. DISPOSAL CONSIDERATIONS

Waste 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. Dispose of in accordance with local regulations

Contaminated Packaging

Do not re-use empty containers.

California Hazardous Waste Codes 181

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

Chemical Name	California EHW	California Carc	California Hazardous Waste	California Waste - Part 2
Supplier Trade Secret			Ignitable powder	STLC (for PBTs): 250 mg/L TTLC (for PBTs): 5000 mg/kg
Supplier Trade Secret			Toxic	STLC (for PBTs): 250 mg/L TTLC (for PBTs): 5000 mg/kg

14. TRANSPORT INFORMATION

DOT NOT REGULATED

TDG Not regulated

14. TRANSPORT INFORMATION

<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL Not determined

U.S. 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 %
Supplier Trade Secret		40-70	1.0
Supplier Trade Secret		40-70	1.0
Supplier Trade Secret		3-7	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

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
Supplier Trade Secret		X	X	
Supplier Trade Secret		X		

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Supplier Trade Secret		40-70				
Supplier Trade Secret		0.1 - 1		X		

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Supplier Trade Secret	1000 lb	

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Supplier Trade Secret			X	X	X
Supplier Trade Secret	X	X	X		X
Supplier Trade Secret	X	X	X		
Supplier Trade Secret	X	X	X		

International Regulations

Mexico - Grade

Minimum risk, Grade 0

Chemical Name	Carcinogen Status	Exposure Limits
Supplier Trade Secret		Mexico: TWA= 0.2 mg/m ³
Supplier Trade Secret		Mexico: TWA 5 mg/m ³ Mexico: TWA 10 mg/m ³ Mexico: STEL 10 mg/m ³
Supplier Trade Secret		Mexico: TWA= 2 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Non-controlled

Chemical Name	NPRI
Supplier Trade Secret	X
Supplier Trade Secret	X

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Prepared By Product Stewardship
23 British American Blvd.
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1-800-572-6501

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Revision Note No information available

General 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