SAFETY DATA SHEET

Issuing Date 17-Sep-2012 **Revision Date** 29-Jun-2015 **Revision Number** 3

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

Product identifier

Product Name **MITSUBISHI Alkaline Dry Battery LR03 AAA**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Alkaline battery

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name GUANGZHOU TIANQIU ENTERPRISE CO., LTD.

Supplier Address 9/F TianQiu Business Building No.16-30, He Yi Rd., San Yuan Li Ave., GuangZhou China
GUANGZHOU
GUANDONG
510410
CN

Supplier Phone Number Phone:8620-36322277
Fax:8620-36323339

Supplier Email qd@gztianqiu.com

Emergency telephone number

Company Emergency Phone Number 8620-13825131170

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

Hazard Statements
Harmful if inhaled
Causes severe skin burns and eye damage
May cause damage to organs through prolonged or repeated exposure

This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.

Appearance Gold **Physical state** Solid **Odor** Odorless

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see supplemental first aid instructions on this label)

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician

Skin
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
Immediately call a POISON CENTER or doctor/physician

Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity
4.16% of the mixture consists of ingredient(s) of unknown toxicity

Other information

Very toxic to aquatic life with long lasting effects

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical Name	CAS No	Weight-%	Trade Secret
Manganese dioxide	1313-13-9	15 - 40	*
Iron	7439-89-6	10 - 30	*
Zinc	7440-66-6	10 - 30	*
Potassium hydroxide	1310-58-3	3 - 7	*
Copper	7440-50-8	1 - 5	*
Graphite	7782-42-5	1 - 5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

General Advice First aid is upon rupture of sealed battery: Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek immediate medical attention/advice.

Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.
Ingestion	Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects	Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Carbon oxides.

Physical/Chemical Reaction Properties	No data available.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.
Other Information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling In case of rupture. Use only with adequate ventilation and in closed systems. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible Products Acids. Bases. Oxidizing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

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
Zinc 7440-66-6	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	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
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m^3	(vacated) Ceiling: 2 mg/m^3	Ceiling: 2 mg/m^3
Copper 7440-50-8	TWA: 0.2 mg/m^3 fume TWA: 1 mg/m^3 Cu dust and mist	TWA: 0.1 mg/m^3 fume TWA: 1 mg/m^3 dust and mist (vacated) TWA: 0.1 mg/m^3 Cu dust, fume, mist	IDLH: 100 mg/m^3 dust, fume and mist TWA: 1 mg/m^3 dust and mist TWA: 0.1 mg/m^3 fume
Graphite 7782-42-5	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 respirable fraction 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

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

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection	If splashes are likely to occur:. Face protection shield. None required for consumer use.
Skin and body protection	Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.
Respiratory protection	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. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use. Do not breathe dust.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Solid		
Appearance	Gold	**Odor**	Odorless
Color	No information available	**Odor Threshold**	No information available

Property	**Values**	**Remarks Method**
pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	Immiscible in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.
Possibility of Hazardous Reactions
None under normal processing.
Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Exposure to air or moisture over prolonged periods. Excessive heat.
Incompatible materials
Acids. Bases. Oxidizing agent.
Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:.

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation.

Eye contact Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide 1313-13-9	= 9000 mg/kg (Rat)	-	-
Iron	= 984 mg/kg (Rat)	-	-

7439-89-6			
Potassium hydroxide 1310-58-3	= 214 mg/kg (Rat)	-	-
Graphite 7782-42-5	> 10000 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

Chronic Toxicity No known effect based on information supplied. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Prolonged exposure may cause chronic effects.

Target Organ Effects Respiratory system. Eyes. Skin. Gastrointestinal tract (GI).

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
908.00 mg/kg
ATEmix (inhalation-gas)
12,566.00 ppm (4 hr)
ATEmix (inhalation-dust/mist)
4.20 mg/l
ATEmix (inhalation-vapor)
31.00 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life. Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Iron 7439-89-6		96h LC50: = 13.6 mg/L (Morone saxatilis)		
Zinc 7440-66-6	96h EC50: 0.11 - 0.271 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.09 - 0.125 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 2.16 - 3.05 mg/L (Pimephales promelas) 96h LC50: 0.211 - 0.269 mg/L (Pimephales promelas) 96h LC50: = 2.66 mg/L (Pimephales promelas) 96h LC50: = 30 mg/L (Cyprinus carpio) 96h LC50: = 0.45 mg/L (Cyprinus carpio) 96h LC50: = 7.8 mg/L (Cyprinus carpio) 96h LC50: = 3.5 mg/L (Lepomis macrochirus) 96h LC50: = 0.24 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.59 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.41 mg/L (Oncorhynchus mykiss)		48h EC50: 0.139 - 0.908 mg/L
Potassium hydroxide 1310-58-3		96h LC50: = 80 mg/L (Gambusia affinis)		
Copper 7440-50-8	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas)		48h EC50: = 0.03 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

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

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

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 contents/containers in accordance with local regulations.

Contaminated Packaging Do not reuse 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 Hazardous Waste
Zinc 7440-66-6	Ignitable powder Toxic
Potassium hydroxide 1310-58-3	Toxic Corrosive
Copper 7440-50-8	Toxic

14. TRANSPORT INFORMATION

DOT NOT REGULATED
Proper Shipping Name NON REGULATED
Hazard Class N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated
Proper Shipping Name NON REGULATED
Hazard Class N/A

IMDG/IMO Not regulated
Hazard Class N/A

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

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	CAS No	Weight-%	SARA 313 - Threshold Values %
Manganese dioxide - 1313-13-9	1313-13-9	15 - 40	1.0
Zinc - 7440-66-6	7440-66-6	10 - 30	1.0
Copper - 7440-50-8	7440-50-8	1 - 5	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

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	
Potassium hydroxide 1310-58-3	1000 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	Extremely Hazardous Substances RQs	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
Copper 7440-50-8	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

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Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Manganese dioxide 1313-13-9			X	X	X
Zinc 7440-66-6	X	X	X	X	
Potassium hydroxide 1310-58-3	X	X	X	X	
Copper 7440-50-8	X	X	X	X	X
Graphite 7782-42-5	X	X	X		

International Regulations

Mexico
National occupational exposure limits

Component	Carcinogen Status	Exposure Limits
Manganese dioxide 1313-13-9 (15 - 40)		Mexico: TWA= 0.2 mg/m^3
Copper 7440-50-8 (1 - 5)		Mexico: TWA= 1 mg/m^3 Mexico: TWA= 0.2 mg/m^3 Mexico: STEL= 2 mg/m^3
Graphite 7782-42-5 (1 - 5)		Mexico: TWA= 2 mg/m^3

Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
Not determined

16. OTHER INFORMATION

NFPA	**Health Hazards**	1	**Flammability**	0	**Instability**	0		**Physical and Chemical Hazards**	-
HMIS	**Health Hazards**	0	**Flammability**	0	**Physical Hazard**	0		**Personal Protection**	X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 17-Sep-2012
Revision Date 29-Jun-2015
Revision Note No information available

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

Safety Data Sheet
29 CFR 1910.1200

Effective Date ： 26/05-2015

Trade Name ： Alkaline Manganese Dry Battery

1 Identification

- **Product identifier**
- **Trade name : Alkaline Manganese Dry Battery**
- **Item No.:**
  AM1/LR20、AM2/LR14、AM3/LR6、AM4/LR03、LR50、LR61、AM9VF
- **Recommended use of the chemical and restrictions on use :**
- **Application of the substance / the preparation :** Electronic products
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier :**
  CHUNG PAK BATTERY WORKS LIMITED
  CHUNG PAK (GUANG DONG) BATTERY INDUSTRIAL CO., LTD
- **Full address :**
  7/F., CHUNG PAK COMMERCIAL BUILDING, 2 CHO YUEN STREET, YAU TONG BAY, KOWLOON, HONGKONG
  GANCUN SECTION FOCHEN ROAD CHEN CUN COUNTY SHUNDE DISTRICT FOSHAN CITY GUANGDONG PROVINCE CHINA
  Phone number :
  852-27171338
  Fax : 852 2772 7727
- **Email :** dylan.cai@chungpak.com
- **Other US contact point :** No available
- **Further information obtainable from :**
  CHUNG PAK BATTERY WORKS LIMITED
  CHUNG PAK (GUANG DONG) BATTERY INDUSTRIAL CO., LTD
- **Emergency telephone number :**
  USA Poison Center Tel: +1 800 222 1222
  +86-757-23312338 Dylan
- **Remark :**
  *This sample is likely to be classified as article and is out of scope of a SDS as set out in 29 CFR Part 1910.1200. This SDS is generated for client's reference only.

2 Hazard(s) identification

- **Classification of the substance or mixture**
  Classification according to OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS05 Corrosion

Skin Corr.	1A	H314	Causes severe skin burns and eye damage.
Eye Dam.	1	H318	Causes serious eye damage.

GHS07

Acute Tox.	4	H302	Harmful if swallowed.
Acute Tox.	4	H332	Harmful if inhaled.

- **Information concerning particular hazards for human and environment :**
  The product has to be labeled due to the calculation procedure of OSHA Hazard Communication Standard (29 CFR 1910.1200).
- **Classification system :**
  The classification is according to the latest edition of OSHA Hazard Communication Standard (29 CFR 1910.1200), and extended by company and literature data.

(Contd. on page 2)

Safety Data Sheet
29 CFR 1910.1200

Effective Date : 26/05-2015

Trade Name : Alkaline Manganese Dry Battery

(Contd. on page 1)

- **Label elements**
- **Labeling according to OSHA Hazard Communication Standard (29 CFR 1910.1200)**
- **Hazard pictograms**

GHS05 GHS07

- **Signal word :** Danger
- **Hazard-determining components of labeling :**
manganese dioxide
potassium hydroxide
- **Hazard statements**

H302+H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.

- **Precautionary statements**

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe dusts or mists.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison center/doctor.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

- **Hazards not otherwise classified (HNOC)** No further relevant information available.

3 Composition / information on ingredients

- **Chemical characterization: Mixtures**
- **Description:**
Mixture of the substances listed below with nonhazardous additions.
For the wording of listed risk phrases refer to section 16.

- **Composition:**

1313-13-9	manganese dioxide Acute Tox.4, H302; Acute Tox. 4, H332	42.0-45.0%
7439-89-6	iron	15.0-20.0%
7440-66-6	zinc	15.0-18.0%
7732-18-5	water	7.0-9.0%
1310-58-3	potassium hydroxide Skin Corr. 1A, H314; Acute Tox. 4, H302	6.0-7.0%
7440-50-8	copper	1.0-3.5%
7782-42-5	Graphite	2.0-3.0%
32131-17-2	Nylon-66	0.6-1.5%
25038-59-9	Polyethylene terephthalate	1.0-1.5%
9004-34-6	Cellulose	0.5-1.0%

(Contd. on page 3)

Trade Name ： Alkaline Manganese Dry Battery

(Contd. on page 2)

• **Remark：**
zinc (CAS: 7440-66-6)
Note: Zn

manganese dioxide (CAS: 1313-13-9)
Note: MnO_2

potassium hydroxide (CAS: 1310-58-3)
Note: KOH

Graphite (CAS: 7782-42-5)
Note: Carbon(C)

copper(CAS: 7440-50-8)
Note: Cu

Nylon-66 (CAS: 32131-17-2)
Note: C36H66N6O6X2

iron (CAS: 7439-89-6)
Note: Fe

water (CAS: 7732-18-5)
Note: H_2O

Cellulose (CAS: 9004-34-6)
Note: Paper

Polyethylene terephthalate (CAS: 25038-59-9)
Note: PET((C10H8O4)n)

4 First-aid measures

• **Description of first aid measures**
• **General description:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
• **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
• **After skin contact:** Immediately wash with water and soap and rinse thoroughly. Then consult a doctor.
• **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
• **After swallowing:**
Do not induce vomiting; immediately call for medical help.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
• **Most important symptoms and effects, both acute and delayed** No further relevant information available.
• **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

• **Suitable extinguishing agents:**
CO_2、extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
• **Special hazards arising from the substance or mixture:** No further relevant information available.
• **Special protective equipment and precautions for firefighters**
• **Protective equipment:** Mouth respiratory protective device.

(Contd. on page 4)

(Contd. on page 3)

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
  Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
  Use neutralizing agent.
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.

7 Handling and storage

- **Precautions for safe handling:**
  Thorough dedusting.
  Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s):** No further relevant information available.

8 Exposure controls / personal protection

• **Components with limit values that require monitoring at the workplace:**	
1313-13-9 manganese dioxide (42.0-45.0%)	
PEL (USA)	Ceiling limit value: 5mg/m^3 as Mn
REL (USA)	Short-term value: 3mg/m^3 Long-term value: 1mg/m^3 as Mn
TLV (USA)	Long-term value: 0.02*0.1* mg/m^3 as Mn; * respirable **inhalable fraction
1310-58-3 potassium hydroxiede (6.0-7.0%)	
REL (USA)	Ceiling limit value: 2mg/m^3
TLV(USA)	Ceiling limit value: 2mg/m^3
7440-50-8 copper (1.0-3.5%)	
PEL (USA)	Long-term value: 1*0.1**mg/m^3 as Cu *dusts and mists **fume
REL (USA)	Long-term value: 1*0.1**mg/m^3 as Cu *dusts and mists **fume
TLV(USA)	Long-term value: 1*0.2**mg/m^3 *dusts and mists **fume; as Cu
7782-42-5 Graphite (2.0-3.0%)	
PEL (USA)	Long-term value: 15mppcf*mg/m^3

(Contd. on page 5)

(Contd. on page 4)

	*impinge samples counted by light field techn.
REL (USA)	Long-term value: 2.5mg/m^3 *respirable dust
TLV(USA)	Long-term value:2*mg/m^3 all forms except graphite fibers; *resp. fraction
9004-34-6 Cellulose (0.5-1.0%)	
PEL (USA)	Long-term value: 15* 5** mg/m^3 *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m^3 *total dust **respirable fraction
TLV(USA)	Long-term value: 10mg/m^3

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Based on the composition shown in Section 3, the following measures are suggested for occupational safety measure.**
- **Appropriate engineering controls:**

Wash clothing and shoes before reuse.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
See Section 7 for information about design of technical facilities.

- **Personal protective equipment:**
- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands :**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material:**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**

Tightly sealed goggles

(Contd. on page 6)

(Contd. on page 5)

9 Physical and chemical properties

. General Information	
. Appearance:	
Form:	Cylindrical
Color:	Blue, silvery
. Odor:	Odorless
. Odour threshold:	Not available
. pH-value:	Not available
. Change in condition	
Melting point/ Melting range:	Not available
Freezing point：	Not available
Boiling point/ Boiling range:	Not available
. Flash point:	Not available
. Flammability (solid, gaseous):	Not available
. Auto-Ignition temperature:	Not available
. Decomposition temperature:	Not available
. Explosion limits：	
Lower:	Not available
Upper:	Not available
. Vapor pressure:	Not available
. Density:	Not available
. Relative density:	Not available
. Vapour density:	Not available
. Evaporation rate:	Not available
. Solubility in/ Miscibility with	
Water:	Not available
. Partition coefficient (n-octanol/water)	Not available
. Viscosity:	
Dynamic:	Not available
Kinematic:	Not available
. Other information	Voltage 1.5V

10 Stability and reacivity

. Reactivity: Data not available
. Chemical stability: Stable under normal operating and storage conditions.
. Possibility of hazardous reactions: No dangerous reactions known.
. Conditions to avoid: No further relevant information available.
. Incompatible materials: No further relevant information available.
. Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

. Acute toxicity:

. LD/LC50 values that are relevant for classification:		
1310-58-3 potassium hydroxide		
Oral	LD50	273 mg/kg (rat)

(Contd. on page 7)

(Contd. on page 6)

7439-89-6 iron		
Oral	LD50	30000 mg/kg (rat)
9004-34-6 Cellulose		
Oral	LD50	＞5000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
  The product shows the following dangers according to internally approved calculation methods for preparations:
  Harmful
  Corrosive
  Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Other adverse effects:** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- Alkaline Manganese Dry Battery is exempt from dangerous goods. It is considered non-dangerous goods by the international Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), International Martine Dangerous Goods regulations (IMDG), the 《Recommendations on the Transport of Dangerous Goods Model Regulations》and also is not classified as dangerous goods under the 56th Edition of the IATA Dangerous Good Regulation 2015 Special Provision A123.

(Contd. on page 8)

(Contd. on page 7)

Separate batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport.
Transport Fashion: By air, by sea, by road.

15 Regulatory information

. Safety, health and environmental regulations/legislation specific for the substance or mixture

. Sara

. Section 335 (extremely hazardous substances):

None of the ingredients is listed.

. Section 313 (specific toxic chemical listings):

1313-13-9	manganese dioxide
7440-50-8	copper

. TSCA (Toxic Substances Control Act):

1313-13-9	manganese dioxide
7439-89-6	iron
7732-18-5	water
1310-58-3	potassium hydroxide
7440-50-8	copper
7782-42-5	Graphite
32131-17-2	Nylon-66
25038-59-9	Polyethylene terephthalate
9004-34-6	Cellulose

. Proposition 65

. Chemical known to cause cancer:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

. Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

. Cancerogenity categories

. EPA (Environmental Protection Agency)

1313-13-9	manganese dioxide	D
7440-66-6	zinc	II
7440-50-8	copper	D

. TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

. NIOSH-Ca (National Institution for Occupational Safety & Health)

None of the ingredients is listed.

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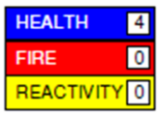
(Contd. on page 8)

16 Other information

NFPA ratings (scale 0-4)

Health = 3
Fire = 0
Reactivity = 0

- **HMIS ratings (scale 0-4)**



Health = 4
Fire = 0
Reactivity = 0

- **Relevant phrases**

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.

- **********

The contents and format of this SDS are in accordance with 29 CFR 1910.1200 (g)

DISCLAIMER OF LIABILITY

The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in anyway connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Remark:

*This sample is likely to be classified as article and is out of scope of a SDS as set out in 29 CFR Part 1910.1200. This SDS is generated for client's reference only.

Date of preparation/last revision 2015.05.26/-

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Tox. 4: Acute toxicity，Hazard Category 4
Skin Corr. 1A: Skin corrosion/irritation，Hazard Category 1A
Eye Dam . 1: Serious eye damage/eye irritation，Hazard Category 1

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End of document