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Report No.: MDIDMVAU64705716

MSDS Report

Sample Description
& Model

Zinc-manganese Dry Battery R03P AAA 1.5V

Applicant

DONG GUAN SHI SHI JIE JIN QIAO BATTERY PLANT

Address

Yide Street 19 Xiayi Cun, Shijie Town, Dong Guan City China

No.: MDIDMVAU64705716

Code: t47a41sko



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Material Safety Data Sheet

Reference to ST/SG/AC.10/30/Rev.6 (GHS)

Section 1 - Chemical Product and Company Identification

Chemical product identification

Sample Description: Zinc-manganese Dry Battery**Sample Model:** R03P AAA 1.5V**Recommended Uses:** N/A**Restrictions on use:** N/A**Supplier name:** DONG GUAN SHI SHI JIE JIN QIAO BATTERY PLANT**Address:** Yide Street 19 Xiayi Cun, Shijie Town, Dong Guan City China**Phone number:** 0769-86318692**FAX:** 0769-86336821**E-mail:** dgjiafuli@21cn.com**Emergency phone number:** 0769-86318692

Section 2 - Hazards Identification

Emergency overview: 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 below hazards exist.

CAS# 1313-13-9

Classification according to GHS

Specific target organ toxicity, repeated exposure (1) (respiratory system, nervous system, cardiovascular system)

Label elements

Hazard pictogram(s):**Signal word:**

Danger

Hazard statement(s):

H372 Causes damage to organs through prolonged or repeated exposure (respiratory system,

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nervous system, cardiovascular system)

Precautionary statement(s):

Prevention:

P260 Do not breathe dust, fume, gas, mist, vapours and spray.

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

Response:

P314 Get medical advice if you feel unwell.

Storage

None.

Disposal:

P501 Contents handling to approved waste treatment plants.

CAS# 7440-66-6

Classification according to GHS

Serious eye damage/eye irritation (2B)

Hazardous to the aquatic environment, long-term hazard (1)

Label elements

Hazard pictogram(s):



Signal word:

Warning

Hazard statement(s):

H320 Causes eye irritation

H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s):

Prevention:

P264 Wash skin and clothing thoroughly after handling.

P273 Avoid release to the environment.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice.

P391 Collect spillage.

Storage

None



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Disposal:

P501 Contents handling to approved waste treatment plants.

CAS# 1333-86-4

Classification according to GHS

Self-heating substances and mixtures (1)

Carcinogenicity (2)

Specific target organ toxicity, repeated exposure (1) (lung)

Label elements

Hazard pictogram(s):



Signal word:

Danger

Hazard statement(s):

H251 Self-heating; may catch fire

H351 Suspected of causing cancer

H372 Causes damage to organs through prolonged or repeated exposure (lung)

Precautionary statement(s):

Prevention:

P235 Keep cool.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

P260 Do not breathe dust.

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

Response:

P308 + P313 IF exposed or concerned: Get medical advice.

P314 Get medical advice if you feel unwell.

Storage

P407 Maintain air gap between stacks or pallets.

P413 Store bulk masses greater than ... kg/...lbs at temperatures not exceeding ...°C/...°F.

P420 Store separately.

P405 Store locked up.

Disposal:

P501 Contents handling to approved waste treatment plants.



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CAS# 12125-02-9**Classification according to GHS**

Acute toxicity, oral (4)

Serious eye damage/eye irritation (2B)

Specific target organ toxicity, single exposure (2) (nervous system)

Specific target organ toxicity, repeated exposure (1) (systemic toxicity)

Hazardous to the aquatic environment, acute hazard (3)

Label elements**Hazard pictogram(s):****Signal word:**

Danger

Hazard statement(s):

H302 Harmful if swallowed

H320 Causes eye irritation

H371 May cause damage to organs (nervous system)

H372 Cause damage to organs through prolonged or repeated exposure (systemic toxicity)

H402 Harmful to aquatic life

Precautionary statement(s):**Prevention:**

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P260 Do not breathe dust, fume, gas, mist, vapours, spray.

P273 Avoid release to the environment.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER if you feel unwell.

P330 Rinse mouth.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice.

P308 + P311 IF exposed or concerned: Call a POISON CENTER.

P314 Get medical advice if you feel unwell.

Storage

P405 Store locked up.

Disposal:

P501 Contents handling to approved waste treatment plants.



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CAS# 1314-13-2**Classification according to GHS**

Reproductive toxicity (2)

Specific target organ toxicity, single exposure (1) (respiratory system, systemic toxicity)

Hazardous to the aquatic environment, long-term hazard (1)

Label elements**Hazard pictogram(s):****Signal word:**

Danger

Hazard statement(s):

H361 Suspected of damaging fertility or the unborn child

H370 Causes damage to organs (respiratory system, systemic toxicity)

H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s):**Prevention:**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

P260 Do not breathe gas, mist, vapours and spray.

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

Response:

P308 + P313 IF exposed or concerned: Get medical advice.

P308 + P311 IF exposed or concerned: Call a POISON CENTER.

P321 Specific treatment (See additional emergency instructions).

P391 Collect spillage.

Storage

P405 Store locked up.

Disposal:

P501 Contents handling to approved waste treatment plants.

Other hazards**Physical and chemical hazards:** See Section 10**Human health hazards:** See Section 11



Environmental hazards: See Section 12

Section 3 – Composition/Information on Ingredients

Chemical characterization: Mixture

Chemical Composition	CAS No.	EC#	Weight (%)
Manganese dioxide	1313-13-9	215-202-6	37.00
Zinc	7440-66-6	231-175-3	30.8
Water	7732-18-5	231-791-2	≥8.0
Carbon black	1333-86-4	215-609-9	7.25
Graphite	7782-42-5	231-955-3	7.4
Ammonium Chloride	12125-02-9	235-186-4	4.5
Zinc Oxide	1314-13-2	215-222-5	4.34

Section 4 - First Aid Measures

Description of first aid measures

General information No special measures required.

After eye contact

Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.

After skin contact

Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.

After inhalation

Remove victim to fresh area. Administer artificial respiration if breathing is difficult. Seek medical attention.

After swallowing

Do not induce vomiting. Get medical attention.

Personal protective equipment for first-aid responders:

No data available.

Most important symptoms/effects, acute and delayed:

No data available.


Indication of immediate medical attention and special treatment needed:

No data available.

Section 5 - Fire Fighting Measures

Suitable extinguishing media:

Use extinguishing agent suitable for local conditions and the surrounding environment .
 Such as dry powder , CO₂.

Unsuitable extinguishing media:

No data available.

Specific Hazards arising from the chemical:

Special hazards arising from the substance or mixture

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot.

Specific protective actions for fire-fighters:

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

Section 6 - Accidental Release Measures

Personal precautions:

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

Protective equipment:

No data available.

Emergency procedures:

Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water.

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Methods and materials for containment and cleaning up:

All waste must refer to the United Nations, the national and local regulations for disposal.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.



Section 7 - Handling and Storage

Precautions for safe handling:

Consumption of food and beverage should be avoided in work areas.

Wash hands with soap and water before eating, drinking.

Ground containers when transferring liquid to prevent static accumulation and discharge.

Information about fire and explosion protection

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles

Store in a cool, dry, well-ventilated place.

Information about storage in one common storage facility

Keep away from heat, avoiding the long time of sunlight.

Further information about storage conditions

Keep container tightly sealed.

Specific and use

No data available.

Section 8 - Exposure Controls/Personal Protection

Control parameters

CAS No.	ACGIH	NIOSH	OSHA
1313-13-9	TLV-TWA 0.2mg/m ³	N/A	N/A
7440-66-6	N/A	N/A	N/A
7732-18-5	N/A	N/A	N/A
1333-86-4	TLV-TWA 3mg/m ³	REL-TWA 3.5mg/m ³	PEL-TWA 3.5mg/m ³
7782-42-5	TLV-TWA 2mg/m ³	REL-TWA 2.5mg/m ³	PEL-TWA 15mppcf PEL-TWA 20mppcf
12125-02-9	TLV-TWA 10mg/m ³ TLV-STEL 20mg/m ³	REL-TWA 10mg/m ³ REL-STEL 20mg/m ³	N/A
1314-13-2	TLV-TWA 2mg/m ³ TLV-STEL 10mg/m ³	REL-TWA 5mg/m ³ REL-STEL 10mg/m ³ REL-Peak 15mg/m ³	PEL-TWA 5mg/m ³ PEL-TWA 15mg/m ³



Appropriate engineering controls:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Personal Protective Equipment

Respiratory protection: Wear suitable protective mask in order to reduce the respiratory system. A large number of leakage, wear chemical protective clothing, including self-contained breathing apparatus.

Hand Protection: Wear appropriate protective gloves to reduce skin contact.

Eyes Protection: Wear safety goggles or eye protection combined with respiratory protection.

Skin and Body Protection: Working environment required, wear suitable protective clothing to minimize contact with skin. The type of protective equipment must be according to the concentration and the content of certain hazardous substances in the workplace.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

General information

Appearance:	Red.
Form:	Cylindrical.
Odour:	Not available.
Odour threshold:	Not available.
pH:	Not available.
Melting point/freezing point:	Not available.
Initial boiling point and boiling range:	Not available.
Flash Point:	Not available.
Evaporation rate:	Not available.
Flammability (solid, gas):	Not available.
Explosion Limits (vol% in air):	Not available.
Vapour pressure, kPa at 20°C:	Not available.
Vapor density:	Not available.
Density/Relative density (water = 1):	Not available.
Solubility(ies):	Not available.



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Partition coefficient: n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.
Other information:	
Voltage	1.5V

Section 10 - Stability and Reactivity

Reactivity: No data available.

Chemical stability: Stable.

Possibility of hazardous reactions: No data available.

Conditions to Avoid: Flames, sparks, and other sources of ignition, incompatible materials.

Incompatibilities materials: Oxidizing agents, acid, base.

Hazardous decomposition products: Carbon monoxide, carbon dioxide.

Section 11 - Toxicological Information

Acute Toxicity:

CAS No.	LC50/LD50
1313-13-9	LD50 Rat (oral): 11710 mg/kg
7440-66-6	LD50 Rat (oral): >2000mg/kg
7732-18-5	No data available.
1333-86-4	LD50 Rat (oral): 15400 mg/kg
7782-42-5	No data available.
12125-02-9	LD50 Rat (oral): 1650mg/kg
1314-13-2	LD50 Rat (oral): >5000 mg/kg LC50 Rat (Inhalation: Dusts and mists): >5.7 mg/L

Skin irritation/corrosion:

Eye damage/irritation: No data available.

Respiratory or Skin sensitisation: No data available.

Reproductive Cell Mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive Toxicity: No data available.



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Specific target organ toxicity-Single exposure: No data available.

Specific target organ toxicity-Repeated exposure: No data available.

Aspiration hazard: No data available.

Potential Health Effects: No data available.

Inhalation: No data available.

Skin contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Section 12 - Ecological Information

Ecological Toxicity:

CAS# 7440-66-6

ErC50: 0.15 mg/L - Algae (*Pseudokirchneriella subcapitata*)- 72h

CAS# 12125-02-9

LC50: 74.2mg/L- fish (Bluegill)- 96h

CAS# 1314-13-2

LC50: 0.098 mg/L -Crustacea (*Daphnia magna*) - 48h

Persistence and degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other adverse effects: No data available.

Section 13 - Disposal Considerations

Disposal methods:

Recommendation:

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packaging

Recommendation: Disposal must be made according to official regulations.

Section 14 - Transport Information

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UN Number	
IATA, IMDG	N/A
UN Proper shipping name	
IATA, IMDG	N/A
Transport hazard class(es)	
IATA, IMDG	N/A
Packing group	
IATA, IMDG	N/A
Packaging Sign	
IATA, IMDG	N/A
Environmental hazards	
Marine pollutant:	No
Special precautions for user	Not applicable.

Transport information: Zinc-manganese Dry Battery R03P AAA 1.5V is exempt from dangerous goods. It is considered non-dangerous goods by the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA) DGR 58th, IATA Special Provisions A123, International Maritime Dangerous Goods Regulations (IMDG) (37-14).

S.P.A123 This entry applies to Batteries, electric storage, not otherwise listed in Subsection 4.2–List of Dangerous Goods. Examples of such batteries are: alkali-manganese, zinc-carbon and nickel-cadmium batteries. Any electrical battery or battery powered device, equipment or vehicle having the potential of a dangerous evolution of heat must be prepared for transport so as to prevent

- (a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals); and
- (b) accidental activation

The words “Not Restricted” and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued.

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.



Section 15 - Regulatory Information

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

CAS No.	TSCA	IECSC	DSL/NDSL	EINECS/ ELINCS/ NLP
1313-13-9	Listed	Listed	Listed DSL	Listed
7440-66-6	Listed	Listed	Listed DSL	Listed
7732-18-5	Listed	Listed	Listed DSL	Listed
1333-86-4	Listed	Listed	Listed DSL	Listed
7782-42-5	Listed	Listed	Listed DSL	Listed
12125-02-9	Listed	Listed	Listed DSL	Listed
1314-13-2	Listed	Listed	Listed DSL	Listed

Section 16 - Other Information

Issue Time: 2017-01-03

Issue Department: Technical department

Modification record:

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Other Information:

CAS: (Chemical Abstracts Service);

EC: (European Commission);

ACGIH: (American Conference of Governmental Industrial Hygienists);

NIOSH: (US National Institute for Occupational Safety and Health);

OSHA: (US Occupational Safety and Health);

TLV: (Threshold Limit Value)

TWA: (Time Weighted Average);

STEL: (Short Term Exposure Limit);



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PEL: (Permissible Exposure Level);
 REL: (Recommended Exposure Limit);
 PC-STEL: (Permissible concentration-time weighted average);
 PC-TWA: (Permissible concentration-short time exposure limit);
 LC50: (Lethal concentration, 50 percent kill);
 LD50: (Lethal dose, 50 percent kill);
 IARC: (International Agency for Research on Cancer);
 EC50: (Median effective concentration);
 BCF: (Bioconcentration Factor);
 BOD: (Biochemical oxygen demand);
 NOEC: (No observed effect concentration);
 NTP: (US National Toxicology Program);
 RTECS: (Registry of Toxic Effects of Chemical Substances);
 IATA: (International Air Transport Association);
 IMDG: (International Maritime Dangerous Goods);
 TDG: (Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations);
 TOC: (Total Organic Carbon);
 TSCA: (Toxic Substances Control Act of USA);
 DSL: (the Domestic Substances List of Canada);
 NDSL: (the Non-domestic Substances List of Canada)

End of report