Document Ref. No. DGTQ/BAT-R03-P

MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name: Carbon Zinc battery R03P PVC

Manufacturer: DONGGUAN TIANQIU ENTERPRISE CO., LTD

Address: TianQiu Industrial Park, Xinji Industrial Zone, Machong Town, Dongguan, GuangDong, P.R.China

Telephone: 0769-81210202

2. Composition/Information on Ingredients

Hazardous Components	Approx wt%	CAS #	EC #
Zinc (Zn)	38.12	7440-66-6	231-175-3
Manganese Dioxide (MnO_2)	26.476	1313-13-9	215-202-6
Zinc Chloride ($ZnCl_2$)	5.47	7646-85-7	231-592-0
Carbon Black	3.27	1333-86-4	215-609-9
Graphite（C）	6.42	7782-42-5	231-955-3
Ammonium chloride（NH4CL）	0.71	12125-02-9	235-186-4
Iron（Fe）	4.91	7439-89-6	231-096-4
Polybutene	0.042	9003-28-5	----
POLYISOPRENE	0.014	9003-31-0	618-362-9
Phenolic epoxy resin	0.014	61788-97-4	----
Water（H_2O）	11.85	7732-18-5	231-791-2
PVC (Chloroethylene, polymer)	1.19	9002-86-2	----
Starch，phosphate	0.12	11120-02-8	----
Paper	1.38	----	----
Mercury (Hg)	< 0.00001	7439-97-6	231-106-7
Cadmium (Cd)	< 0.001	7440-43-9	231-152-8
Lead (Pb)	0.014	7439-92-1	231-100-4

3. Hazards Identification

Routes of Entry: Not applicable under normal conditions

Health Hazards: In case of leakage, will be cause itchy and/or chemical burns when direct

contact with electrolyte
Hazards to Environment: Not applicable
Fire and Explosion Hazards: Not applicable

4. First-aid Measures

Skin Contact: If exposed to a leaking battery, remove contaminated clothing. Wash exposed areas with plenty of water and soap. If irritation occurs, consult a physician.
Eyes Contact: If a battery is leakage and materials contact eyes, flush immediately with running water for at least 15 minutes. Consult an ophthalmologist at once.
Inhalation: If vapor from vented or leaked batteries are inhalation, move to fresh air and get medical attention.
Ingestion: Get immediately medical attention, do not induce vomiting or give a liquid to unconscious person.

5. Fire Fighting Measures

Hazard Characteristic: Not available
Hazards Expose to Combustion Products: In case of fire, carbon dioxide, carbon monoxide and other toxic organic substances will be generated. Do not inhale fumes and smoke.
Extinguishing Media: In case of fire, you can use any class of fire extinguisher.
Special Fire Fighting Procedures: Fire fighters should wear self-contained breathing apparatus.

6. Accidental Release Measures

Precautions: Avoid direct contact with the leaking or ruptured batteries. Avoid short circuit.
Methods for Clean Up: Care for well-ventilated conditions. Recycle or dispose of the materials in an appropriate way.

7. Handling and Storage

Precaution: Handing and transfer the products carefully, make sure the packing always in good condition. Damaged packing may cause batteries contact together, in this case batteries may short circuit or improperly connected, it cause batteries venting, leaking or exploding.
Storage: Store in a dry, cool and well-ventilated area.

8. Exposure Control/Personal Protection

Exposition/Technical Measures: Atmospheric vapor concentrations must be minimized by adequate ventilation.
Protection of Hands, Eyes, and Skin: No required under normal use conditions. When handling leaking batteries, use gloves and wear safety glasses to protect hands, eyes and

skin.
General Safety and Hygiene Measures: Use only as directed.

9. Physical and Chemical Properties

Physical State and Appearance: Cylindrical
Odor: Odorless
pH: N/A
Melting Point (℃): N/A
Specific Gravity (H_2O=1): N/A
Boiling Point (℃): N/A
Vapor Density (Air=1): N/A
Vapor Pressure (kPa): N/A
Heat of Combustion (kJ/mol): N/A
Critical Temperature (℃): N/A
Critical Pressure (MPa): N/A
Partition Coefficient: N/A
Flash Point (℃): N/A
Ignition Temperature (℃): N/A
Explosion Limit % (V/V): N/A
Solubility in Water: N/A
Solubility in Other Solvents: N/A

10. Stability and Reactivity

Stability: Stable
Incompatibility: None
Condition to Avoid: Avoid shorting, mechanical & thermal abuse
Hazardous Polymerization: Will not occur
Hazardous Decomposition: None

11. Toxicological Information

Note: Since the materials in this battery are sealed in the can, the potential for exposure to the components of the battery is negligible, when the battery is used as directed. However technical or electrical abuse of the battery may result in the release of battery contents.
Toxicity to Animals: Not applicable
Chronic Effects on Human: Not applicable

12. Ecological Information

This product has not been tested for environmental effects.

13. Disposal Consideration

Dispose in accordance with Federal, States and local regulations

14. Transport Information

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in “strong outer packaging” that prevents spillage of contents. All original

packaging for TIANQIU Carbon Zinc batteries has been designed to be compliant with these regulatory concerns.

Carbon Zinc batteries (sometimes referred to as “Dry cell” batteries) are not listed as dangerous goods under the IATA Dangerous Goods Regulation 62nd2021, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations. All TIANQIU Carbon Zinc batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words “not restricted” and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

Regulatory Body	Is regulate?
ADR	Not regulate
IMDG	Not regulate
UN	Not regulate
US DOT	Not regulate
IATA	SP A123
ICAO	Not regulate

15. Regulatory Information

Special requirement be according to the local regulators.

16. Other information

Do not heat or dispose of in fire. Do not recharge or disassemble the battery.

Notice to reader:

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