

iCellTech Corp.

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(Gayang Techno-Town, Gayang 3 dong)
Seoul 157-793 Korea
TEL: 82-2-3665-6962 FAX: 82-2-6735-6965
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MATERIAL SAFETY DATA SHEET**1. IDENTIFICATION**

Product name: Zinc Air Batteries

Sizes: All

Emergency Telephone Number: 82-2-3665-6962

Edition Date: 23 March 2015

2. INGREDIENTS

Ingredient Name	CAS No.	Wt.%	TLV/TWA*
Zinc	7440-66-6	30~40	5.0mg/m ³ (ZnO,Dust,TWA)
Steel	7439-89-6	30~40	---
Nickel (plated on steel)	7440-02-0	3~7	1.0mg/m ³ (Elemental,TWA)
Copper (plated on steel)	7440-50-8	1~5	1.0mg/m ³ (TWA)
Carbon Black	1333-86-4	1~3	3.5mg/m ³ (TWA)
Potassium Hydroxide solution	1310-58-3	1~3	Not Listed (for solution)
Water, paper, plastic, other	N/A	Balance	Not Listed

* Source: ACGIH Threshold Limit Value for Chemical Substances and Physial Agents, 2003

3. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point @ 760mm HG(°C)	NA (Not Applicable)
Vapor Pressure(mm Hg @ 25 °C)	NA
Vapor Density(Air=1)	NA
Density(gr/cc)	NA
Percent Volatile by Volume(%)	NA
Evaporation Rate(Butyl Acetate=1)	NA
Physical State	Solid
Solubility in Water(% by Weight)	NA
PH	NA
Appearance and Odor	Geometric solid object: These batteries have 1~4 holes in the positive(+)end

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4. FIRE & EXPLOSION HAZARD DATA

Important note: Batteries should not be disassembled or disposed of in fire. Exposure to the ingredients contained within batteries or their combustion products could be harmful.

Flash Point	NA	Lower(LEL)	NA
Flammable Limits in Air(%)	NA	Upper(UEL)	NA
Extinguishing Media	Use water, foam or dry powder, as appropriate		
Auto-ignition	NA		
Special Fire Fighting Procedures	As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous Combustion products		
Special Fire Explosion Hazards	Like any sealed container, battery cells may rupture when exposed to excessive heat: this could result in the release of flammable or corrosive materials.		

5. FIRST AID INFORMATION

Threshold Limit Value(TLV) and Source: NA

Effects of Overexposure: None

Emergency First Aid Procedures:

Skin and Eyes: Contents of an open battery can skin irritation and/or chemical burns. Remove contaminated clothing and wash skin with soap and water. In the event that battery ruptures, flush eyes with copious quantities of flowing water for a minimum of 10 minutes. Get immediate medical attention for eyes.

Swallowing: Ingestion of a battery can be harmful. Call The National Poison Control Center (202-625-3333-COLLECT) day or night-for advice and follow-up. For more information, visit <http://www.nema.org/batteriesehs>. Seek medical attention immediately.

6. STABILITY AND REACTIVITY DATA

Stable or Unstable	Stable
Incompatibility (Material to Avoid)	NA
Hazardous Decomposition Products	NA
Decomposition Temperature (°F)	NA
Hazardous Polymerization	Will not occur
Conditions to Avoid	Avoid electrical shorting

7. ACCIDENTAL RELEASE MEASURES

Procedures to contain and clean up leaks or spills: In the event of a battery rupture, prevent skin

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contact and collect all released material in a plastic lined metal container.
Reporting Procedure: Report all spills in accordance with the reporting requirements.

8. EXPOSURE CONTROL / PROTECTION INFORMATION

Respiratory Protection(Specify type)	NA	
Ventilation	Local Exhaust	NA
	Mechanical(General)	NA
	Special	NA
	Other	NA
Protective Gloves	NA	
Eye Protection	NA	
Other Protective Clothing	NA	

9. HANDLING AND STORAGE

Handling And Storage: Store in a cool and dry place. Removal of sealing tab prior to use can result in reduced endurance time. Storing unsealed cells together could result in cell shorting and heat build-up. These batteries are manufactured in a charged state: also these are not assembled for recharging. Recharging can cause battery leak or, in some cases, rupture.

10. STABILITY AND REACTIVITY

STABLE OR UNSTABLE: Stable
INCOMPATIBILITY (MATERIALS TO AVOID): NA
HAZARDOUS DECOMPOSITION PRODUCTS: NA
DECOMPOSITION TEMPERATURE (0°F): NA
HAZARDOUS POLYMERIZATION: Will Not Occur
CONDITIONS TO AVOID: Avoid electrical shorting, puncturing or deforming

11. Toxic Information

This battery product is finished consumer product. It is classified as an "article" and exempt under the federal OSHA Hazard Communication standard.

Chronic Effects: No chronic health effects reported

Target Organs: No target organs reported.

Carcinogenicity: This finished consumer product is not carcinogenic.

12. Ecological information

Suspicious ecological effects : Will not occur

13. Disposal considerations

Waste Disposal Method:

- 1) Reclaim or dispose of in an approved, secured landfill after required pretreatment.
- 2) Per National, States and local disposal requirements



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14. Transportaion Information

These batteries (sometimes referred to as "Dry cell" batteries) are not listed as dangerous goods under UN Dangerous Good Regulations, IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions.

USDOT – See Special Provision 130.

IATA – See Special Provision A123.

ICAO : not regulated.

15. REGULATORY INFORMATION

SARA 313: Notification is not required because these products are article(s) that do not release a covered toxic chemical under the normal conditions of storage, use, or handling.

16. Other information

Reference : Not available

Maker : iCellTech Corp.

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