Material Safety Data Sheet（MSDS）

Product Name: Dry Battery

Issue Date: 23-01-2016

Section 1 - Product and Company indentification

PRODUCT NAME:□□Dry Battery

APPLICATIONS:□□For Stock No. 90072 3W COB HEADLAMP (3XAAA)

SUPPLIER:□□Draper Tools Ltd
Hursley Road
Chandlers Ford
Eastleigh
Hampshire
SO53 1YF
Draper Helpline +44 (0) 2380 494344
Opening hours 8:30-17:00 Monday – Friday.

Section 2 - Hazardous Ingredients/Identity Information

Description	Chemical Identity	Approximate % of total weight
Znic Metal	Zn	30
Manganese Dioxide	MnO_2	27
Zinc Chloride	$ZnCl_2$	5
ammonium chloride	NH_4Cl	1
Carbon	C	12
Water	H_2O	15
CAS NO.	NH_4CL （CAS:12125-02-9）； Zn（CAS: 7440-66-6 ） MnO_2 （CAS: 1313-13-9 ）；C（CAS:7782-42-5） $ZnCL_2$（CAS:7646-85-7）； H_2O（CAS:7732-18-5 ）	

Section 3 - Physical/Chemical Characteristics

Boiling Point	N.A.	Specific Gravity(H_2O=1)	2
Vapor Pressure(mm Hg)	N.A.	Melting Point	N.A.
Vapor Density(AIR=1)	N.A.	Evaporation Rate	N.A.
Solubility in water	N.A.		
Appearance and Odor	Cylindrical Or Quadrate Shape, Odorless		

Section 4 - Fire and Explosion Hazard Data

Flash Point	N.A.	Flammable Limits	LEL: N.A.
Extinguishing Media	N.A.		UEL: N.A.
Special Fire Fighting Procedures	N.A.		
Unusual Fire and Explosion Hazards	Do not dispose of battery in fire and recharge battery – may explode. Do not short-circuit battery — may cause burns.		

Section 5 - Reactivity Data

Stability	Unstable		Conditions to Avoid: Do not heat, short circuit or recharge
	Stable	X	
Incompatibility(Material to Avoid): acid , oxidant			
Hazardous Decomposition Or Byproducts: N.A.			
Hazardous Polymerization	May Occur		
	Will Not Occur	X	

Section 6 - Health Hazard Data

Route of Entry	Inhalation? N.A. Skin? N.A. Ingestion? N.A.

Health Hazards (Acute and Chronic)/Toxiclogical information:

In case of electrolyte leakage, skin will be itchy when contamination with electrolyte.
In contact with electrolyte can cause severe irritation and chemical burns.
Inhalation of electrolyte vapors may cause irritation of the upper tract and lungs.

Section 7 - First Aid Procedures

First Aid Procedures:

If electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately.
If electrolyte comes into contact with eyes, wash with copious amounts of water for fifteen(15) minutes,and contact a physician.
If electrolyte vapors are inhaled, provide fresh air and seek medical attention if respiratory irritation develops.
Ventilate the contaminated area.

Section 8 - Accidental Release or Spillage

Steps to Be Taken in Case Material is Release or Spilled:

Batteries that are leakage should be handled with rubber gloves.
Avoid direct contact with electrolyte.
Wear protective clothing and a positive pressure Self-Contained Breathing Apparatus.

Section 9 - Handling and Storage

Safe Handling and Storage Advice

Batteries should be handling and storage carefully to avoid short circuits.
Do not store in disorderly fashion, or allow metal objects to be mixed with stored batteries.

Never disassemble a battery. Do not breathe cell vapors or touch internal material with bare hand. Keep batteries between -20℃ and 35℃ for prolong storage..

Section 10 - Exposure Controls/Personal Protection

Occupational Exposure Limit LTEP N.A.			STEP N.A.	
Respiratory Protection(Specify Type) N.A.				
Ventilation	Local Exhausts N.A.		Special N.A.	
	Mechanical(General) N.A.		Other N.A.	
Protective Gloves N.A.			Eye Protective N.A.	
Other Protective Clothing or Equipment N.A.				
Work / Hygienic Practices N.A.				

Section 11 - Toxicological Information

In case of electrolyte leakage, skin will be itchy when contamination with electrolyte. In contact with electrolyte can cause severe irritation and chemical burne. Inhalation of electrolyte vapors may cause irritation of the upper tract and lungs.

Section 12 - Ecological Information

N.A.

Section 13-Disposal Considerations

Dispose of batteries according to government regulations.

Section 14 - Transport Information

These batteries are considered to be "Dry cell" batteries and unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and International Maritime Dangerous Goods Regulations (IMDG). The only DOT requirement for shipping these batteries is special provision 130 which states "Batteries, dry are not subject to the requirement of this subchapter only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (For example, by the effective insulation of exposed terminals). As of 1/1/97 IATA requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting.

Section 15 - Regulatory Information

Special requirement be according to the local regulatories.

Section 16 - Other Information

The data in this Material Safety Data Sheet only to the specific material designated herein.