

Material Safety Data Sheet for all Ni-MH cells

Chemical Name and Synonyms	Nickel Metal Hydroxide (Ni-MH)
Formula	Sealed Nickel Metal Hydroxide Rechargeable

Section 2 : Hazardous Information

Hazardous Components :
Description :
Ni(OH) ₂ (Nickel Hydroxide)
KOH Solution (Potassium Hydroxide)

Section 3 : Physical and chemical Characteristics

Boiling Point	N. A.	Specific Gravity (H ₂ O= 1)	N. A.
Vapor Pressure (mm Hg)	N. A.	Melting Point	N. A.
Vapor Density (AIR= 1)	N. A.	Evaporation Rate (Butyl Acetate)	N. A.
Solubility in Water	N. A.		
Appearance and Odor	Cylindrical Shape , odorless		

Section 4 : Hazard Classification

Classification	N. A.
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Section 5 : Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section 6 : Health Hazard Data

Route(s) of Entry	Inhalation ?	Skin ?	Ingestion ?
	N. A.	N. A.	N. A.
Health Hazard (Acute and Chronic) / Toxicological information			
In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte.			
In contact with electrolyte can cause severe irritation and chemical burns.			
Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.			

Section 7 : First Aid Measures

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 : Fire and Explosion Hazard Data

Flash Point (Method used)	Ignition Temp.	Flammable Limits	LEL	UEL
N. A.	N. A.	N. A.	N. A.	N. A.
Extinguishing Media				
Carbon Dioxide, Dry Chemical or Foam extinguishers				
Special Fire Fighting Procedures				
N. A.				
Unusual Fire and Explosion Hazards				
Do not dispose of battery in fire - may explode.				
Do not short - circuit battery - may cause burns.				

Section 9 : Accidental Release or Spillage

Steps to Be Taken in case Material is Released 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 (SCBA).

Section 10 : Handling and Storage

Safe handling and storage advice
Batteries should be handled and stored 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 hands.
Keep batteries between -30°C and 35°C for prolong storage.

Section 11 : Exposure Controls / Person Protection

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

Section 12 : Ecological Information

N. A.

Section 13 : Disposal Method

Dispose of batteries according to government regulations.

Section 14 : Transportation Information

The dry cell battery manufactured and sold by Hi-Watt complies with IMDG code Special Provision 304.
The dry cell battery is non-dangerous goods and should not be prohibited for sea shipment by and major international regulatory bodies.

Section 15 : Regulatory Information

Special requirement be according to the local regulatory bodies.

Section 16 : Other Information

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

Section 17 : Measures for fire extinction

In Case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.
Fire fighters should wear self-contained breathing apparatus.