



MATERIAL SAFETY DATA SHEET

Report No.: TWDKJ20200102MSDS01

Product Name: Nickel-Cadmium Battery

Type/Model: Main type: F series: 1.2V 6000-8000mAh
Serial type show as below

Revision Date: January 13, 2020

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Reviewer: Chen Huang

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广州邦禾检测技术有限公司

Guangzhou MCM Certification & Testing Co., Ltd.



Material Safety Data Sheet

SECTION 1 - CHEMICAL AND COMPANY IDENTIFICATION		
Product Name:	Nickel-Cadmium Battery	
Type/Model, Main:	F series: 1.2V 6000-8000mAh	
Type/Model, Serial:	Series batteries exist the same design and components as main batteries.	
	AAA series: 1.2V 200-350mAh	AA series: 1.2V 300-1000mAh
	2/3AA series: 1.2V 200-400mAh	A series: 1.2V 1000-1400mA
	4/5A series: 1.2V 800-1200mAh	7/5A series: 1.2V 1000-1800mAh
	2/3A series: 1.2V 400-700mAh	1/2A series: 1.2V 300-500mAh
	SC series: 1.2V 1300-2000mAh	4/5SC series: 1.2V 1000-1300mAh
	C series: 1.2V 2000-2800mAh	D series: 1.2V 2500-5500mAh
	1/2D series: 1.2V 2000-3000mAh	/
Company:	JIANGMEN TWD TECHNOLOGY CO., LTD.	
Address:	No.30 Ruanchuan Road, Duruan Town, Pengjiang District, Jiangmen, Guangdong, P.R. China	
Fax:	0750-3664955	
Zip code:	529075	
E-mail:	Jessy@twd.com.cn	
Emergency Telephone:	0750-3666260	

SECTION 2 - HAZARDS IDENTIFICATION	
Hazards Identification:	The sealed intact battery is not hazardous in normal use.
Emergency Overview:	Caution: Avoid contact and inhalation the electrolyte contained inside the battery.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENT			
Ingredient	Molecular formula	CAS No.	Weigh
Nickel and Nickel Compounds	-	-	26.2%
Cobalt and Cobalt Compounds	-	-	3.0%
Cadmium and Cadmium Compounds	-	-	24.6%
Iron and Iron Compounds	-	-	36.2%
Poly(Tetrafluoroethylene)	(C ₂ F ₄) _n	9002-84-0	3.2%
Potassium Hydroxide	KOH	1310-58-3	5.0%
Sodium Hydroxide	NaOH	1310-73-2	3.2%
Lithium Hydroxide	LiOH	1310-66-3	3.2%

SECTION 4 - FIRST AID MEASURES**Eye Exposure:**

In case of contact with eyes, flush with copious of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Skin Exposure:

If the internal battery materials of an opened battery cell come into contact with skin, immediately flush with plenty of water or soap.

Inhalation Exposure:

If inhaled the internals of battery vomiting. Seeking Immediate medical attention.

Ingestion Exposure:

If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

SECTION 5 - FIRE FIGHTING MEASURES**Danger characteristic:**

Exposure to excessive heat can cause venting of the liquid electrolyte.
Battery may burst and release hazardous decomposition products when exposed to a fire situation.

Hazardous combustion products:

Corrosive and toxic gas may be emitted during fire.

Fire-Fighting method:

The staff must equip with filtermask (full mask) or isolated breathing apparatus.
The staff must wear the clothes which can defense the fire in the upwind direction.
Remove the container to the open space as soon as possible.
Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

Fire-Fighting media:

Plenty of water, dry chemical powder or carbon dioxide.

SECTION 6 - ACCIDENTAL RELEASE MEASURES**Emergency treatment:**

If the battery material is released, remove personnel from area until the batteries cool down and fumes dissipate.
Provide maximum ventilation to clear out hazardous gases and avoid skin and eye contact or inhalation of vapors
Remove spilled liquid with absorbent and incinerate waste.

SECTION 7 - HANDLING AND STORAGE**Handling:**

1. Do not allow battery terminates to contact each other, or contact with other metals.
2. Do not put the cell or battery into a fire or heat it. Do not solder the cell directly. Do not use or leave the cell or battery in a place near fire or heaters.
3. Do not expose the battery to excessive physical shock or vibration.
4. Do not immerse, throw, and wet a battery in water.
5. Short-circuiting should be avoided. Short circuit will reduces the life of the battery and can lead to ignition of surrounding materials. Physical contact with to short- circuited battery can cause skin burn.
6. The batteries should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.
7. Place the cell beyond the child packing and container.
8. Do not connect the battery directly to an electric outlet or cigarette socket in a car.
9. Be sure to use the specified charger for battery, and follow the charging instructions correctly.
10. Do not mix old and new batteries together, neither with Ni-Cd, dry batteries or another manufacturer batteries

or product.
Storage:
1. Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks.
2. Keep the sample in the cool, dry and well-ventilated place (temperature: -20~30 °C, humidity: 45~85%). Do not exposure to direct sunlight for long periods. Keep away from fire and heating sources. Don't keep the samples with oxidizer and acid.
3. Equip with relevant types and quantities of the extinguishment instruments. The storage place should be equipped with suitable shelter materials for divulgence handling.
4. For rechargeable battery, charge the battery every 6 months to the amount specified by the manufacture, even if the battery is not used.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Control:
Keep away from heat and open flame. Supply with sufficient partial air exhaust. Store in a cool, dry place.
Respiratory Protection:
Not necessary under conditions of normal use. Wear self-contained breathing filtermask if the density exceed in the air. Wear breathing apparatus under the condition of emergency rescue or evacuation.
Eyes Protection:
Not necessary under conditions of normal use. Wear protective glasses if handling a leaking or ruptured battery.
Skin and Body Protection:
Not necessary under conditions of normal use. Wear fireproofing, gas defense clothes in case of handling a leaking or ruptured battery.
Hands Protection:
Not necessary under conditions of normal use. Wear chemical resistant rubber glove.
Other Protections:
No smoking, dining and drinking water in the workplace. Keep good habit of hygiene.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	-
Physical state:	Solid
Form:	-
Odor:	Odorless
Solubility:	Insoluble in water.

SECTION 10 - STABILITY AND REACTIVITY

Stability:
Stable under normal temperature and pressure.
Distribution of Ban:
Explosives, inflammables, strong oxidants and corrosives
Conditions to Avoid:
Fire source, heating source, disassemble, external short circuit, crushes, deformation, high temperature above 100°C, direct sunlight and high humidity, immerse in water or overcharge.
Hazardous Polymerization:
Will not occur.
Hazardous Decomposition Products:

Metal oxides, carboxyl compound such as CO, CO₂, etc.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity:

No information is available.

Sub-acute and Chronic Toxicity:

No information is available.

Irritation Data:

The internal battery materials may cause irritation to eyes and skin.

Sensitization:

The liquid in the battery may cause sensitization to some person.

Mutagenicity:

No information is available.

Carcinogenicity:

Nickel compounds, Chromium and Cobalt compounds are considered to be possible human carcinogen(s).

Others:

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.

SECTION 12 - ECOLOGICAL INFORMATION

Eco-toxicity:

No information is available.

Biodegradable:

No information is available.

Mobility in soil:

No information is available.

Bioconcentration or biological accumulation:

No information is available.

Other harmful effects:

Don't abandon the battery into environment, may cause water or soil pollution.

SECTION 13 - DISPOSAL CONSIDERATIONS

Appropriate Method of Substance:

The battery should be completely discharged prior to disposal in order to prevent short circuit.

The battery contains recyclable materials, and it is suggested recycle.

Refer to National or Local regulations before handling.

Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in National or Local regulations of hazardous waste treatment and hazardous waste transportation.

SECTION 14 - TRANSPORT INFORMATION**Air transportation, according to IATA DGR 61st Edition (Effective 1 January-31December 2020)**

UN Number	NON REGULATED
Proper Shipping Name	NON REGULATED
Hazard Class	Not restricted
Special provision	Special provision A123
Packaging requirement	Not-restricted goods

Sea transportation, according to IMO IMDG Code (Amend 39-2018)

UN Number	NON REGULATED
Proper Shipping Name	NON REGULATED
Hazard Class	Not restricted
Special provision	NONE
Package instruction	Not-restricted goods

SECTION 15 - REGULATORY INFORMATION*Dangerous Goods Regulation (DGR)**Recommendations on the Transport of Dangerous Goods Model Regulations**International Maritime Dangerous Goods (IMDG)**Occupational Safety and Health Act (OSHA)**Toxic Substances Control Act (TSCA)**Code of Federal Regulations (CFR)**Technical Instructions for the Safe Transport of Dangerous Goods**California Proposition 65**Superfund Amendments and Reauthorization Act Title III (302/311/312/313) (SARA)*

In accordance with all Federal, State and local laws.

SECTION 16 - ADDITIONAL INFORMATION**Accordinging standard:***GB/T 16483-2008 Safety data sheet for chemical products Content and order of sections**ISO 11014:2009(E) Safety data sheet for chemical products – Content and order of sections***Editing date:**

January 8, 2020

Department:

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