

# MSDS

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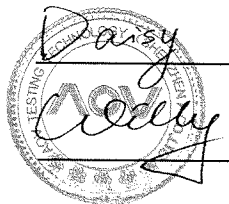
**Samples Name:** NI-Cd AA 1.2V

**Model:** /

**Client Name:** UNITECH BATTERY LIMITED

**Client Address:** NO.8,KAIMING ROAD,JINTANG INDUSTRIAL ZONE,LIUYUE,HENGGANG TOWN, LONGGANG DISTRICT  
SHENZHEN

Written by:



Inspected by:

Approved by:



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## Material Safety Data Sheet

### Section 1 - Chemical Product and Company Identification

**Product Name:** NI-Cd AA 1.2V

**Manufacture:** /

**Address:** /

**Tel:** +86-755-2850-9555

**Emergency Telephone:** +86-755-2850-9555

**Fax:** +86-755-2850-6266

**Email:** hukejun@unitechbatt.com

### Section 2 - Hazards Identification

**Fatality grade:** In accordance with Directive 1999/45/EC, the sample belongs to dangerous.

**Invasion route:** Skin touch: Contact with electrolyte solution inside battery may cause serious burns to skin tissues. Contact with nickel compounds may cause result in chronic eczema or nickel itch.

Eyes touch: In the case of a fire or cell rupture the electrolyte solution inside battery is extremely corrosive to eye tissue and may result in permanent blindness. Contact with nickel oxide may cause minor irritation.

Inhalation: No exposure possible except in the case of fire or abuse. Effects of inhalation of cadmium and/or nickel compounds vary from mild irritation of nasal mucous membranes to damage of lung tissues proper. Inhalation of cadmium oxide may cause dry throat, cough, headache, vomiting, chest pain and chills. Chronic overexposure to cadmium compounds may result in pulmonary edema, breathing difficulty, prostration, and kidney damage.

Ingestion: Ingestion of electrolyte solution causes tissue damage to throat area and gastro/respiratory tract. Ingestion of nickel compounds causes nausea and intestinal disorders.

**Health hazards:** These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused.

**Environment hazards:** The electrolyte of the battery have harm to the soil, water.

**Burn & burst danger:** Do not dispose of battery in fire and recharge battery-may explode. Do not short-circuit battery -may cause burns.

These cells and batteries manufactured from them may be highly charged and are capable of high-energy discharge. Care should be taken to handle cells properly to avoid shorting or misuse that will result in rapid uncontrolled electrical, chemical, or heat energy release.

Do not break open cell.

Do not allow an exposed flame or spark to come near the cells.



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## Section 3 –Composition/Information on Ingredient

Pure  Admixture

Composition:

Chemical Name		In % By Weight	CAS No.
Positive pole	Nickel hydroxide	21.5 ± 2.2	12054-48-7
	Cobaltous oxide	1.3 ± 1.1	1307-96-6
	Nickel foam	3.1 ± 1.1	/
Cathode	Metal strip	4.1 ± 1.1	/
	Cadmium oxide	25.2 ± 2.2	1306-19-0
Separator		3.3 ± 1.1	/
Can and Cap		25.6 ± 2.8	/
electrolyte	Potassium hydroxide	3.9 ± 1.1	1310-58-3
	Pure water	10.0 ± 1.7	128-44-9
Insulator		1.7 ± 0.8	/

## Section 4 - First Aid Measures

**Skin touch:** Remove contaminated clothing and flush effected areas with plenty of water for at least 15 minutes. Wash with soap and water.

**Eyes touch:** Flush with plenty of water for at least 15 minutes if abuse causes safety vents to activate. Get immediate medical attention.

**Inhalation:** Remove to fresh air. Give oxygen or artificial respiration if needed. Get immediate medical attention.

**Ingestion:** Do not induce vomiting. Dilute by giving water. If available give several glasses of mild. Get immediate medical attention. Do not give anything by mouth to an unconscious person.

## Section 5 - Fire Fighting Measures

**Danger characteristic:** Electrolyte solution is corrosive to all human tissues. It will react violently with many organic chemicals, especially nitro carbons and chlorocarbons. Electrolyte solution reacts with zinc, aluminum and other active materials, releasing flammable hydrogen gas.

Cadmium fumes may be released when batteries are subjected to high temperature. In case of fire, do not take in smoke and fume.

**Extinguishing Media:** Use water foam or dry powder, as appropriate

**Fire-Fighting method & media:** As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Sparying water on the containers in the fireplace to keep them cool until finish extinguishment. Flush with water and neutralize with dilute vitriol. In case of fire, it is permitted to use any class of extinguishing medium on those batteries or the packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.



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## Section 6 –Accidental Release Measures

**Emergency treatment:** Cut off the fire source. It is suggested that the staff wear self-contained breathing apparatus. Shut off the divulgence source as soon as possible. Prevent skin contact and collect all released material in a plastic lined metal container. Prevented the spillage to flow into restrictive space like the sewer and the drainage channel. Small amount of divulgence: sweep. Massive divulgence: Build diking or dig pit to accept, recycle or transport to waste treatment place for handling.

## Section 7 - Handling and Storage

**Handling:** To supply with sufficient air exhaust. The operating staff must have received special training and abide by the operating regulations. In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container. Keep away from fire and heating sources. No smoking in the workplace.

**Storage:** These cells and batteries shall not be stored in high temperature, the maximum temperature is 45°C (less than one month), otherwise the cells and batteries maybe leakage. Besides, the cells and batteries shall be protected from short circuit and protected from movement that could result in short circuit.

## Section 8 - Exposure Controls, Personal Protection

**Maximum admissible concentration:** No standard yet

**Monitoring Method:** /

**Engineering Control:** To supply with sufficient partial air exhaust.

**Respiratory Protection:** Use NOISH/MSHA approved respirator if cell broken open during a fire to maintain exposure levels below the TWA for cadmium and nickel compounds.

**Eyes Protection:** Use splash goggles or face shield if cell activates due to abuse.

**Body Protection:** Wear work clothes.

**Hands Protection:** If exposure to electrolyte solution, or dried salts is likely, use any water-insoluble non-performance glove, i.e., synthetic rubber. Do not use leather or wool.

**Other Protections:** No smoking, dining and drinking water in the workplace. Keep good habit of hygiene.

## Section 9 - Physical and Chemical Properties

**Flash Point:** /

**Appearance:** Geometric solid object

**Boiling Point:** /

**Proportion:** /

**Specific Gravity:** 1.17-1.250(electrolyte)

**Acid Value:** /

**PH Value:** /

**Permission of solvent inhalation:** /

**Solubility:** Electrolyte solution is completely soluble

## Section 10 - Stability and Reactivity

**Stability:** Stable under normal temperature.

**Distribution of Ban:** Aluminum, zinc and other active metals, acid, chlorinated and aromatic hydrocarbons, nitro carbons,



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halocarbons.

**Conditions to Avoid:** fire source, heating source, avoid electrical shorting

**Hazardous Polymerization:** will not occur

**Hazardous Decomposition Products:** Nickel oxide, cadmium, cadmium oxide and potassium hydroxide.

## Section 11 - Toxicological Information

**Acute Toxicity:** /

**Sub-acute and Chronic Toxicity:** /

**Irritation:** /

**Sensitization:** /

**Mutagenicity:** /

**Carcinogenicity:** /

**Others:** /

## Section 12 - Ecological Information

**Eco-toxicity:** /

**Ecological inert:** /

**Biodegradable:**

**Non-biodegradable:** /

**Bioconcentration or biological accumulation:** /

**Other harmful effects:** /

## Section 13 - Disposal Considerations

**Nature of waste:** /

**Waste disposal methods:** Battery and electrolyte solution are corrosive. If not recycled, must be disposed of in accordance with all international, national, provincial regulations. Disposal of batteries comply with government regulations.

**Attention abandoned:** /

## Section 14 - Transport Information

**Number of dangerous goods:** /

**UN Number:** /

**Packaging Mark:** /

**Packaging Method:** /

**Transport Attentions:** All of cells being transported by air, by sea, or by truck shall be protected from short circuit and protected from movement that could result in short circuit. If the batteries 100% full charged, we advise to use freezing container with 20°C inside if the single batteries seal packed with bistered card.

## Section 15 - Regulatory Information

**Regulatory Information:** Federal State and Local reporting requirements



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## Section 16 - Additional Information

References: /

Guidance departments: /

Data audit unit: /

Laws Help: /

**Other Information:** The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

-Photo included.

Photograph of Sample



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