PRODUCT DATA SHEET
Nickel- Cadmium Rechargeable Battery
Rev. February 2022

Section 1.
IDENTIFICATION OF THE PRODUCT AND THE COMPANY

PRODUCT NAME:	F0BATT00E02A0 / R0BATT00E02A0
PRODUCT USE:	power supply for Autec radio remote control
SUPPLIER:	AUTEC srl
ADDRESS:	Via Pomaroli 65, 36030 Caldogno, Vicenza, ITALY
MAIL:	info@autecsafety.com
CONTACT NUMBER:	+390444901000

Section 2.

HAZARDS IDENTIFICATION

As a solid manufactured article, no exposure to hazardous ingredients is expected with normal use. This Nickel-Cadmium battery is hermetically sealed and the electrolyte is corrosive. The materials contained in this battery may only represent a hazard if the integrity of the battery is compromised or if the battery is physically or electrically abused.

Exposure to the ingredients contained within or their combustion products could be harmful, so we recommend to follow these safety measure:

- Do not short-circuit
- Do not reverse the polarity,
- Do not open or disassemble
- Do not expose to fire or open flame
- Do not puncture, deform, incinerate or heat above 60 °C
- Do not submit to excessive mechanical stress,
- Do not put in contact with water

Follow the instructions reported in the users manual prepared by the manufacturer.

Additional information on battery handling are shown under section 7 and 16.

Section 3.

COMPOSITION / INFORMATION ON INGREDIENTS

Material	CAS #	EC #	Content %
Iron	7439-89-6	231-096-4	30-40

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Cadmium oxide	1306-19-0	215-146-2	25-30
Nickel dihydroxide	12054-48-7	235-008-5	15-20
Nickel	7440-02-0	231-111-4	5-6
Cadmium	7440-43-9	231-152-8	3-5
Potassium hydroxide	1310-58-3	215-181-3	3-5
Cobalt oxide	1307-96-6	215-154-6	2-3
Lithium hydroxide	1310-69-2	215-183-4	< 1
Vinylon	-	-	2-3

SVHC substances according to REACH (Article 33)

Content	CAS #	EC #	Substance	Properties of concern
> 0,1%	7440-43-9	231-152-8	Cadmium	Carcinogenic, suspected to be Mutagenic, suspected to be Toxic to Reproduction
> 0,1%	1306-19-0	215-146-2	Cadmium oxide	Carcinogenic, suspected to be Mutagenic, suspected to be Toxic to Reproduction

Section 4.

FIRST-AID MEASURES

Under normal conditions of use, the battery is hermetically sealed. When handling electrolyte, precautions must be taken to avoid personal to get in direct contact with it. If this accidentally happens the following must be exercised:

Skin Contact

Contents of an open battery can cause skin irritation and/or chemical burns. Nickel, nickel compounds, cobalt, and cobalt compounds can cause skin sensitization and an allergic contact dermatitis. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes. Provide eyewash station. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Inhalation

Contents and fumes of an open battery can cause skin respiratory irritation and metal fume fever. Supply fresh air or Oxygen. Rinse mouth and nose with water. Call for doctor for medical treatment.

Ingestion

Swallowing a battery can be harmful. Exposure to contents of an open or damaged battery can cause serious chemical burns of mouth, Esophagus, and Gastrointestinal tract.

Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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Section 5.

FIRE-FIGHTING MEASURES

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing materials. Cool exterior of batteries if exposed to fire to prevent rupture.

Under normal use, the battery does not exhibit flammable properties. Exposure to excessive heat may lead to venting or rupture of the sealed battery, exposing the internal components which may be corrosive and toxic.

Fire fighters should wear self-contained breathing apparatus. Nickel-Cadmium batteries involved in a fire can vent and produce toxic fumes including nickel, nickel oxide, cadmium, cadmium oxides, and cobalt oxides.

Section 6.

ACCIDENTAL RELEASE MEASURES

Spill and leaks are unlikely because cells are contained in an hermetically-sealed case.

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Avoid contact with skin, eyes or clothing. Wear protective clothing. Use personal protective equipment as described in section 8 of this safety data sheet.
Environmental Precautions	Prevent from penetration in the soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: Disposal Considerations

Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so. For waste disposal, see Section 13 of the SDS.
Methods for Clean-Up	Absorb or pack spill residues in inert material and dispose in accordance with local regulations.

Section 7.

HANDLING AND STORAGE

Storage:	Store in a cool, well ventilated area. Avoid direct sunlight, high temperature and high humidity. Elevated temperatures can result in a reduced battery service life. Optimum storage temperatures are between -20 and +30 °C. Do not store batteries above 60 °C or below -20 °C. Keep away from water.
Mechanical Containment:	Do not obstruct safety release vents on batteries.
Handling:	Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuits will cause high cell temperatures which can cause skin burns as well as shorten the battery life. Sources of short circuits include batteries in bulk containers, metal jewelry, and metal covered tables or metal belts used for assembly of batteries into devices. Never disassemble a battery or bypass any safety device. Do not open battery. Do not throw into fire. Do not mix batteries of different types and brands. Do not mix new and used batteries. Keep batteries in non conductive (i.e. plastic) trays.
Charging:	This battery is made to be charged many times. Because it gradually loses its charge over a few months, it is good practice to charge battery before using a recommended charger. Use only approved chargers and Procedures since improper charging can cause heat damage or even high pressure rupture. Observe proper charging polarity.

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Section 8.

EXPOSURE CONTROLS / PERSONAL PROTECTION

Under normal condition of use no special personnel protection is required.

Ventilation Requirements: General ventilation normally adequate. Provide adequate ventilation in case of leak from a damaged or open battery that generates fumes or vapors.

Respiratory Protection: Not necessary under normal conditions. Leak from a damaged or opened battery: Wear suitable respiratory protection.

Eye Protection: Not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.

Skin Protection: Not necessary under normal conditions. Use neoprene or natural rubber gloves if handling an open or leaking battery.

General considerations: Do not allow metallic articles to contact the battery terminals during handling. Avoid contact with the internal components of the battery. Do not store food, drink and tobacco near the product.

Section 9.

PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Physical property	Value
Physical state	Solid Article
Appearance	rectangular prism (battery)
Odor	Not determined
Color	Not determined
Odor Threshold	Not determined
pH	Not determined
Melting Point/Freezing Point	Not determined
Boiling Point/Boiling Range	Not determined
Flash Point	Not determined
Evaporation Rate	Not determined
Flammability (Solid, Gas)	Will burn if involved in a fire
Upper Flammability Limits	Not determined
Lower Flammability Limit	Not determined
Vapor Pressure	Not determined
Vapor Density	Not determined
Specific Gravity	Not determined
Water Solubility	Insoluble
Solubility in other solvents	Not determined
Partition Coefficient	Not determined
Auto-ignition Temperature	Not determined
Decomposition Temperature	Not determined
Kinematic Viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive properties	Not explosive
Oxidising properties	Not oxidising

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Section 10.

STABILITY AND REACTIVITY

This product is stable under normal conditions at ambient temperature.

Conditions to avoid:	Shorting batteries such as creating a contact across terminals with any metal object. Heat above 60 °C or incinerate. Deform, mutilate, crush, pierce, disassemble.
Incompatibility (Materials to avoid):	Conductive materials, water, seawater, strong oxidizers and strong acids.
Hazardous decomposition products:	Nickel compounds, Cadmium compounds, and caustic liquid.

Section 11.

TOXICOLOGICAL INFORMATION

Skin Contact	Contents of an open battery can cause skin irritation and/or severe chemical burns. Nickel, nickel compounds, cobalt, and cobalt compounds can cause skin sensitization and an allergic contact dermatitis.
Eye Contact	Exposure to contents of an open or damaged battery causes serious eye damage.
Inhalation	Contents and fumes of an open battery can cause skin respiratory irritation and metal fume fever. Contains a component that can be fatal if inhaled as dust from dried battery contents.
Ingestion	Swallowing a battery can be harmful. Exposure to contents of an open or damaged battery can cause serious chemical burns of mouth, Esophagus, and Gastrointestinal tract.

Section 12.

ECOLOGICAL INFORMATION

There is no ecological harm when batteries are used correctly and recycled after use has ended.

Section 13.

DISPOSAL CONSIDERATIONS

Europe: End-of-life management must be managed according to directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators and its transposition into each European Union's Member State national legislation.

As a waste their European Waste Code (EWC) is 16 06 02* (hazardous).

As all battery systems, Nickel Cadmium cells must be collected separately from other waste and recycled. Never incinerate Nickel Cadmium batteries. Never dispose of Nickel Cadmium batteries in landfills.

Residual waste: if contaminated by a leaking or damaged battery, empty containers should be taken to an approved waste handling site for recycling or disposal.

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Section 14.

TRANSPORT INFORMATION

Autec Nickel Cadmium batteries are considered "dry cell" batteries and are not subject to dangerous goods regulation for the transportation by the U.S. Department of Transportation (DOT), the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), the International Maritime Dangerous Goods Code (IMDG), the European agreement on the transport of Dangerous goods by road (ADR).

The only requirements for shipping these batteries by ICAO and IATA is Special Provision A123 which states “an electrical battery or battery powered device having the potential of dangerous evolutions of heat that is not prepared so as to prevent a short circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals: or in the case of equipment, by disconnection of the battery and protection of exposed terminals) is forbidden from transportation.”

Section 15.

REGULATORY INFORMATION

European Union: According to Directive 2006/66/EC, the batteries must be marked with the crossed wheel bin symbol and the chemical symbol of cadmium (Cd). Waste batteries have to be collected and recycled.

Section 16.

OTHER INFORMATION

General remark

This “Safety Information” is provided as a service to our customers. The information contained in this Safety Data Sheet are critical to the safe handling and proper use of the product. The details presented are in accordance with our present knowledge and experiences, they cannot advise all possible situation.

Legal remark

E.U. These batteries are no “substances” or “preparations” according to Regulation (EC) No 1907/2006 EC, they are “articles” and no substances are intended to be released during handling. Therefore there is no obligation to supply a SDS according to Regulation (EC) 1907/2006, Article 31.

U.S.A. Safety Data Sheets are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an “article”. According to OSHA, Article means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use;

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and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

As these batteries are defined as “articles”, they are exempted from the requirements of the Hazard Communication Standard.

Canada

This is not a controlled product under Workplace Hazardous Materials Information System (WHMIS). This product meets the definition of a “manufactured article” and is not subject to the regulations of the Hazardous Products Act.

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