MATERIAL SAFETY DATA SHEET (MSDS)
REPORT NO. PTC2311170292S-LD01
Dated: January 1, 2024

SECTION 1 - CHEMICAL PRODUCT IDENTIFICATION

NAME OF PRODUCT	18V RECHARGEABLE HEAVY DUTY LITHIUM-ION BATTERY
MODEL/SKU	E1260-28-HD
NOMINAL VOLTAGE	18V
RATED CAPACITY	4000mAh (72Wh)
VERSION NUMBER	V1.0
SAMPLE RECEIVED DATE	NOVEMBER 11, 2023
COMPLETED DATE	DECEMBER 23, 2023
REFERENCED DOCUMENTS	ACCORDING TO GB/T 16483-2008 & ISO 11014: 2009

SECTION 2 - HAZARDS IDENTIFICATION

PREPARATION HAZARDS AND CLASSIFICATION	Not dangerous with normal use. Do not dismantle, open, or shred the E1260-28-HD. Ingredients contained within or their ingredient products could be harmful.
APPEARANCE, COLOR, AND ODOR	Solid object with no odor or color.
PRIMARY ROUTE(S) OF EXPOSURE	These chemicals are contained in a sealed enclosure, Risk of exposure occurs only if the internal cell is mechanically, thermally, or electrically abused to the point of compromising the enclosure. If this occurs, exposure to the electrolyte solution contained within can occur by inhalation, ingestion, eye contact, and/or skin contact.

POTENTIAL HEALTH EFFECTS	**ACUTE (short term):** see Section 8 for exposure controls. In the event that this internal cell has been ruptured, the electrolyte solution contained within the E1260-28-HD would be corrosive and can cause burns. **INHALATION**: Inhalation of materials from a sealed E1260-28-HD is not an expected route of exposure. **INGESTION**: A sealed E1260-28-HD cannot be swallowed to expose the material. **SKIN**: Contact between the E1260-28-HD and skin will not cause any harm. Skin contact with contents of an open internal cell can cause severe irritation or burns to the skin. **EYE**: Contact between the E1260-28-HD and the eye will not cause any harm. Eye contact with the contents of an open internal cell can cause severe irritation or burns to the eye. **CHRONIC (long term)**: see Section 11 for additional toxicological data.
REPORTED AS CARCINOGEN	Not applicable

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CLASSIFICATION OF THE E1260-28-HD ☐ SUBSTANCE ☒ MIXTURE

CHEMICAL NAME	CAS NUMBER	WEIGHT %
Lithium Cobaltate	12190-79-3	35.5
Aluminum Foil	7429-90-5	9
Nylon	24937-16-4	1
Graphite	7782-42-5	18
Copper	7440-50-8	15
Styrene	9003-55-8	1.5
Ithium Hexafluorophosphate	21324-40-3	2.8
Ethylene Carbonate	96-49-1	5
Dimethyl Carbonate	616-38-6	5
Methyl Ethyl Carbonate	623-53-0	5
Nickel	7440-02-0	2.2

CAS: CHEMICAL ABSTRACT SERVICE REGISTRY NUMBER

SECTION 4 - FIRST AID MEASURES

INHALATION	If contents of an opened internal cell are inhaled, remove source of contamination or move the victim to fresh air. Obtain medical care.
SKIN CONTACT	If skin contact with contents of an open, internal cell occurs, as quickly as possible, remove contaminated clothing, shoes, and leather goods. Immediately flush with lukewarm, gently flowing water for at least 30 minutes. If irritation or pain persists, seek immediate medical care. Completely decontaminate clothing, shoes, and leather goods before reuse or discard.
EYE CONTACT	If eye contact occurs with contents of an open, internal cell occurs, immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes while holding the eyelids open. Neutral saline solution may be used as soon as it is available. Take care not to rinse contaminated water into the unaffected eye or onto face. Quickly transport victim to an emergency care facility.
INGESTION	If ingestion of contents of an open, internal cell occurs, ***DO NOT INDUCE VOMITING***. Have the victim rinse mouth and water again. Quickly transport victim to an emergency care facility.

SECTION 5 - FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES	In the event that the E1260-28-HD has been ruptured, the electrolyte solution contain within the internal cell would be flammable. Like any sealed container, E1260-28-HD may rupture when exposed to excessive heat; this can result in the release of flammable or corrosive materials.

FLAMMABILITY HAZARD: EXCESSIVE HEAT CAN CAUSE INCLUSIONS TO ESCAPE.

Combustion products and internal substances in contact with air and water products inside include: CO, CO_2, HF, phosphorus fluoride oxide, metal oxides of lithium, other irritant and toxic gases.

Using extinguishing media suitable for the materials that are burning, such as a dry powder, CO_2, soil, sand, and so on.

As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand self-contained breathing apparatus and full protective gear. Fight the fire from a protected location or a safe distance.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES	Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment (PPE) as indicated in Section 8.
ENVIRONMENTAL PRECAUTIONS	Prevent material from contaminating soil and from entering sewers or waterways.
METHODS AND MATERIALS FOR CONTAINMENT	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.
METHODS AND MATERIALS FOR CLEANING UP	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waster container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water collect all contaminated wash water for proper disposal.

SECTION 7 - HANDLING AND STORAGE

HANDLING	Do not handle E1260-28-HD with metalwork. Do not open, disassemble, crush or burn the E1260-28-HD. Ensure good ventilation, exhaustion at the workplace. Prevent the formation of dust. Information about protection against explosions and fires: keep ignition sources away, do not smoke around the battery.
STORAGE	If the E1260-28-HD is subject to storage for such a long term, more than 3 months, it is recommended to recharge the batteries periodically. And recommended storage temperature is 0°C - 35 °C, 48 - 85% RH. Do not store the battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. Keep out of reach of children. Do not expose the battery to heat or fire. Avoid storage in direct sunlight. Do not store the battery together with oxidizing and acidic materials.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes, and vapor. Keep away from heat and open flame. Store in a cool and dry place.

PERSONAL PROTECTIVE EQUIPMENT (PPE)	**Respiratory Protection:** Not necessary under normal conditions. **Skin & Body Protection:** Not necessary under normal conditions. Wear neoprene or nitrile rubber gloves, if handling an open or leaking E1260-28-HD. **Hand Protection:** Wear neoprene or natural rubber material gloves if handling an open or leaking E1260-28-HD. **Eye Protection:** Not necessary under normal conditions, wear safety glasses if handling open or leaking E1260-28-HD.
OTHER PROTECTIVE EQUIPMENT	Have a safety shower and eye wash fountain readily available in the immediate work area.
HYGIENE MEASURES	Do not eat, drink, or smoke in work area. Maintain good housekeeping.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Form: Solid
	Shape: Cuboid
	Color: Black
	Odor: Odorless
PH WITH INDICATION OF THE CONCENTRATION	Not applicable.
MELTING POINT / FREEZING POINT	No relevant information available.
BOILING POINT	No relevant information available.
FLASH POINT	No relevant information available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	No relevant information available.
VAPOR PRESSURE	Not applicable.

VAPOR DENSITY (AIR = 1)	Not applicable.
DENSITY / RELATIVE DENSITY	No relevant information available.
SOLUBILITY IN WATER	Insoluble
AUTO-IGNITION TEMPERATURE	130 °C
DECOMPOSITION TEMPERATURE	No relevant information available.
EVAPORATION RATE	No relevant information available.
FLAMMABILITY (SOIL, GAS)	No relevant information available.
VISCOSITY	Not applicable.

SECTION 10 - STABILITY AND REACTIVITY

STABILITY	The E1260-28-HD is stable under normal conditions.
CONDITIONS TO AVOID (E.G. STATIC DISCHARGE, SHOCK, OR VIBRATION	Do not subject the E1260-28-HD to mechanical shock. Vibration encountered during transportation does not cause leakage, fire, or explosion. No not disassemble, crush, short, or install with incorrect polarity. Avoid mechanical or electrical abuse.
INCOMPATIBLE MATERIALS	No relevant information available.
HAZARDOUS DECOMPOSITION PRODUCTS	This material may release toxic fumes if burned or exposed to fire.
POSSIBILITY OF HAZARDOUS REACTION	No relevant information available.

SECTION 11 - TOXICOLOGICAL INFORMATION

IRRITATION	Risk of irritation occurs only if the internal cell is mechanically, thermally, or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes, and respiratory tract may occur.
SENSITIZATION	No relevant information available.
NEUROLOGICAL EFFECTS	No relevant information available.
REPRODUCTIVE TOXICITY	No relevant information available.
MUTAGENICITY (GENETIC EFFECTS)	No relevant information available.

SECTION 12 - ECOLOGICAL INFORMATION

GENERAL NOTE	Water hazard class 1 (self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Dispose of batteries away from fire, rain, and snow.
ANTICIPATED BEHAVIOR OF A CHEMICAL PRODUCT IN ENVIRONMENT / POSSIBLE ENVIRONMENTAL IMPACT / ECOTOXICITY	No relevant information available.
MOBILITY IN SOIL	No relevant information available.
PERSISTENCE AND BIODEGRADABILITY	No relevant information available.
BIO-ACCUMULATION POTENTIAL	No relevant information available.
OTHER ADVERSE EFFECTS	No relevant information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposing of the E1260-28-HD cannot be directly treated as ordinary garbage. Product disposal recommendation: observe local, state, and federal laws and regulations.

Packaging disposal recommendation: Be aware that discarded E1260-28-HD may cause fire, tape the E1260-28-HD terminals to insulate them. Don't disassemble the battery and completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or reused. Observe local, state, and federal laws and regulations.

SECTION 14 - TRANSPORT INFORMATION

The E1260-28-HD has passed the UN 38.3 test and also complies with the United Nations Recommendations on the Transport of Dangerous Goods; IATA Dangerous Goods regulations, and applicable U.S. DOT regulations for the safe transport of E1260-28-HD. PI 965: (UN3480), PI966 (UN3481), PI967 (UN3481).

In the IATA Dangerous Goods Regulations, E1260-28-HD is divided into PI965: lithium, ion cell/battery (UN Number: UN3480); PI 966 lithium ion cell/battery packed with equipment (UN Number: UN3481); PI 967: lithium ion cell/battery contained in equipment (UN Number: UN3481). 965 Section IB; 966 Section II 967.

The E1260-28-HD is transported according to the NEW PACKING INSTRUCTION 965, Section IB; 966 Section II and 967 Section II of IATA DGR 65th Edition.

The E1260-28-HD can be treated as "Non-Dangerous Goods", under the United Nations Recommendations of the Transport of Dangerous Foods, SP188, provided that packaging is strong and prevent the products from short-circuiting.

UN: UN3480 & UN3481
UN Number: UN3480 & UN3481

The mode of transportation: Air transportation, Sea transportation, Road transportation, Railway transportation.
Label for Air transportation: Lithium battery handling label, and Hazard class 9 label and cargo aircraft only.
Label for Sea transportation, Road transportation, Railway transportation: Lithium battery handling label.

International transport of lithium batteries is regulated by the following organizations:

- The International Civil Aviation Organization (ICAO) Technical Instructions
- The International Air Transport Association (IATA) Dangerous Goods Regulations, 65th Edition
- The International Maritime Dangerous Goods (IMDG) Code. IMDG (41-22)

SECTION 15 - REGULATORY INFORMATION

- Dangerous Goods Regulations
- International Maritime Dangerous Goods
- United Nations Recommendations on the Transport of Dangerous Goods Regulations
- Classification and Code of Dangerous Goods
- Occupational Safety and Health Act (OSHA)
- Toxic Substance Control Act (TSCA) (302/311/312/313)
- Superfund Amendments and Reauthorization Act Title III (302/311/312/313)

In according with United Nations, country, and local laws.

SECTION 16 - OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, Encore Packaging, makes no warranty of ability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration, and investigation.

END OF MSDS