

MATERIAL SAFETY DATA SHEET

The batteries are exempt articles and are not subject to the OSHA Hazard Communication Standard Requirement. This sheet is only provided as technical information and is referred normal use of the product in question. Zeus makes no warranty expressed or implied.

SECTION 1 - Product and Company Identification

⚡ Product Name: Lithium Thionyl Chloride batteries	Sizes: Various - see chart in Section 2
⚡ Company: PowerCell LLC dba ZEUS Battery Products	Telephone Number: +1 (630) 295-6800
⚡ Address: 191 Covington Dr. Bloomington, IL 60108 USA	Fax Number: +1 (630) 295-6801
	Date of Preparation: January 1st, 2023

SECTION 2 - Composition / Information on Ingredients

Cell P/N	Capacity (mAh)	SDS Number	Thionyl Chloride Concentration % CAS 7719-09-7 EC No 231-748-8	Lithium Tetrachloroaluminate Concentration % CAS 14024-11-4 EC No 237-850-9	Lithium Concentration % (Weight in g) CAS 7439-93-2 EC No 231-102-5	Carbon Black Concentration % CAS 1333-86-4 EC No 215-609-9
ER10450	800mAh	2623101014	37.4%	6.7%	3% (0.25g)	
ER14250M	750mAh	2623101002	37.4%	6.7%	2.5% (0.25g)	
ER14250	1200mAh	2623101001	37.4%	6.7%	3% (0.3g)	
ER14335M	1200mAh	2623101024	37.4%	6.7%	3% (0.4g)	
ER14335	1650mAh	2623011019	32.5%	5.2%	3.5% (0.46g)	5.0%
ER14505M	2100mAh	2623101012	37.4%	6.7%	3% (0.6g)	
ER14505	2600mAh	2623101011	37.4%	6.7%	3.5% (0.7g)	
ER17335M	1700mAh	2623101026	37.4%	6.7%	3% (0.6g)	
ER17335	2100mAh	2623011004	37.4%	6.7%	3% (0.6g)	
ER17505M	2800mAh	263101027	37.4%	6.7%	3% (0.89g)	
ER17505	3600mAh	2623011017	30.0%	5.0%	4.1% (0.98g)	4.0%
ER18505M	3200mAh	2623101004	37.4%	6.7%	4% (1.1g)	
ER18505	4100mAh	2623101003	37.4%	6.7%	4% (1.2g)	
ER26500M	6000mAh	2623101006	37.4%	6.7%	4% (1.9g)	
ER26500	8500mAh	2623101005	37.4%	6.7%	5% (2.3g)	
ER34615M	13000mAh	2623011008	37.4%	6.7%	3.1% (3.4g)	
ER34615	19000mAh	2623101007	37.4%	6.7%	5% (4.9g)	
ER261020	16000mAh	2623101028	37.4%	6.7%	3% (4.6g)	
ER341245	35000mAh	2623101029	37.4%	6.7%	3% (4.9g)	

SECTION 3 - Hazards Identification

These batteries have passed the test items of UN Model Regulations, Manual of Test and Criteria Section UN38.3. They are not restricted to IATA Dangerous Goods Regulations (DGR) 64th Edition and IMO International Maritime Dangerous Goods Code (2020 Edition).

Caution: Avoid contact and inhalation of the electrolyte contained inside of the battery.

SECTION 4 - First Aid Measures

None unless internal materials exposure.

If the internal contents are exposed, observe the following instructions:

Inhalation If the internal battery materials are inhaled, remove to fresh air and seek medical attention.

Skin If the internal battery materials of an opened battery cell come in contact with the skin, immediately flush with plenty of water.

Eyes If the internal battery materials of an opened battery cell come in contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Consult a physician immediately.

Ingestion If the internal materials of battery are swallowed, do not induce vomiting. Seek immediate medical attention.

SECTION 5 - Fire Fighting Measures

Extinguishing Media: Suitable - Dry chemical, sandy soil, carbon dioxide.

Firefighting: Protective Equipment - Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazards - Emits toxic fumes under fire conditions.

SECTION 6 - Accidental Release Measures

Personal Precaution Procedure: If batteries show signs of leaking, avoid skin or eye contact with the material leaking from the battery. Use chemical resistant rubber gloves and nonflammable absorbent materials for clean up. Mix with inert material (e.g. dry sand, vermiculite) and transfer to sealed container for disposal.

SECTION 7 - Handling and Storage

Handling: Keep away from ignition sources, heat, and flame. Such batteries must be packed in inner packages in such manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid mechanical or electrical abuse. More than a momentary short circuit will generally reduce the battery service life. Avoid reversing battery polarity within the battery assembly. In case of a battery unintentionally be crushed, rubber gloves must be used to handle all battery components. Avoid contact with eyes, skin. Avoid inhalation. No smoking at working site.

Materials to avoid: Strong oxidizing agents, Corrosives.

Storage - Store in a cool, well-ventilated area. Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits.

Materials to avoid: Strong oxidizing agents, Corrosives.

SECTION 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use ventilation equipment if available.
Safety shower and eye bath.
Other Protection: No smoking, drinking and eating at work site.
Wash thoroughly after handling.

PPE:

Respiratory System: Not necessary under conditions of normal use.
Eyes: Not necessary under conditions of normal use.
Clothing: Wear appropriate protective clothing.
Hand: Safety gloves.

SECTION 9 - Physical / Chemical Characteristics

Melting Point: >300°C

Solubility: Partially soluble in water

Appearance: Green cylinder with plastic film shell

Odor: Odorless

SECTION 10 - Stability and Reactivity

Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Avoid exposure to heat and open flame. Avoid mechanical or electrical abuse. Prevent short circuits. Prevent movement that could lead to short circuits.

Materials to Avoid: Strong oxidizing agents. Corrosives.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: Metal Oxides, CO, CO₂

SECTION 11 - Toxicological Information

Toxicity Data: Not available

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

SECTION 12 - Ecological Information

No data available.

SECTION 13 - Disposable Information

Appropriate Method of Disposal of Substance: Lithium batteries are best disposed of as a non-hazardous waste when fully or mostly discharged. Contact a licensed professional waste disposal service to dispose of large quantities materials.

SECTION 14 - Transportation Information

IATA Proper Shipping Name: Lithium Metal Batteries (including lithium alloy batteries)
UN Number: UN3090
Hazard Class: 9
Packing Group: N/A
The goods are packed according to the packing instruction 968~970 section IA

IMO Proper Shipping Name: Lithium Metal Batteries (including lithium alloy batteries)
UN Number: UN3090
Hazard Class: 9
Packing Group: N/A
EmS No: F-A, S-I
The product is not restricted to IMO IMDG International Maritime Dangerous Goods Code (2020 Edition) according to special provision 188

SECTION 15 - Regulatory Information

EU Battery Directive 2006/66/ED Amended 2013/56/EU: Zeus batteries are compliant with all aspects of the Directive

SECTION 16 - Other Information

If you need further information, please contact a Zeus sales representative.