Safety Data Sheets (SDSs)

Product Name: Rechargeable Li-ion Battery System

Commissioner: Sunwoda Energy Technology Co.,Ltd.

CVC Testing Technology Co., Ltd.

Safety Data Sheets (SDSs)

Name of Product	Rechargeable Li-ion Battery System
Type/Model	CIESS 60 614.4V 100Ah 60kWh
Commissioned by	Sunwoda Energy Technology Co.,Ltd.
Commissioner address	Room 201， Building C，Sunwoda electronic Factory, Tangjia Community, Fenghuang Street, Guangming District, Shenzhen City, Guangdong Province, China
Supplier	Sunwoda Energy Technology Co.,Ltd.
Supplier address	Room 201， Building C，Sunwoda electronic Factory, Tangjia Community, Fenghuang Street, Guangming District, Shenzhen City, Guangdong Province, China
Inspection according to	GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS, Rev.10)
Emergency telephone number	86-0755-86958041
Remarks	-

Seal of CVC

Date of issue：2025-01-09

Approved by: Zhang Siyao Reviewed by: Liu Zhen Tested by: Lin Qingyuan

SECTION 1: Product and company identification

Product Identifier:

Product name: Rechargeable Li-ion Battery System

Model: CIESS 60

Other means of identification:

Synonyms: None

Relevant identified use of Product and uses advised against:

Recommended Use: energy storage

Uses advised against: Don’t disassemble, impact, crush, put into fire or water, don’t use above 50 ℃! Don’t short circuit the battery, Don’t disassembly the module by yourself, keep the environment dry.

Details of the Supplier of the safety data sheet:

Name: Sunwoda Energy Technology Co.,Ltd.

Address: Room 201， Building C，Sunwoda electronic Factory, Tangjia Community, Fenghuang Street, Guangming District, Shenzhen City, Guangdong Province, China

Telephone: 16671265231

Fax: -

Postcode: 518116

E-mail address: xiaolixiang1@sunwoda.com

Emergency telephone number:

Company Emergency Phone Number: 86-0755-86958041

SECTION 2: Hazard identification

Classification:

The watt-hour rate of the product is 60kWh, it is belong to the class 9 dangerous goods.

The product is tested according to Section 38.3 of the Manual of Tests and Criteria, the test report number is:RZUN2023-2993

Other information

Caution! Avoid short circuit place in high temperature environment, put into water, or damage the shell.

SECTION 3: Composition/information on ingredients

Chemical characterization: Mixtures

Description: Chemical power supply based on nonaqueous electrolyte. Composed by positive electrode, negative electrode, diaphragm, electrolyte and shell.

Hazardous ingredients:

Common Chemical Name	Chemical Formula	Concentration (%)	CAS No.	EC No.
Lithium iron phosphate	$LiFePO_4$	37	15365-14-7	921-062-3
PVDF	$C_2H_2F_2$	0.8	24937-79-9	N/A
Aluminum foil	Al	3	7429-90-5	231-072-3
Copper foil	Cu	6.5	7440-50-8	231-159-6
Carbon Black	C	0.2	1333-86-4	215-609-9
DEC	$C_5H_{10}O_3$	<10	105-58-8	203-311-1
Lithium hexafluorophosphate	$LiPF_6$	<13.5	21324-40-3	244-334-7
EMC	$C_4H_8O_3$	<5	623-53-0	N/A
EC	$C_3H_4O_3$	<5	96-49-1	202-510-0
Graphite	C	19	7782-42-5	231-955-3
Lead	Pb	Not Detected	7439-92-1	231-100-4
Cadmium	Cd	Not Detected	7440-43-9	231-106-8
Mercury	Hg	Not Detected	7439-97-6	231-106-7

Note: N/A=Not apply.

SECTION 4: First-aid measures

First aid measures:

Eye Contact: Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact: Remove contaminated clothing and shoes. Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Ingestion: Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Swallowing: Do not induce vomiting. Get medical attention.

Most Important Symptoms/Effects:

No information available.

Indication of any immediate medical attention and special treatment needed:

Inform physician. Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable Extinguishing Media:

CO_2, dry chemical powder, wet sand, plenty of water (for cooling).

Unsuitable Extinguishing Media: No information available.

Protective Equipment and Precautions for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. For example: Wear self-contained respiratory protective device. Wear suitable protective clothing and eye/face protection.

Special hazards arising from the substance or mixture:

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium batteries contain flammable ingredients that may vent, ignite and produce sparks when subjected to high temperature (>150℃), When damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in close proximity.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Personal Precautions Avoid contact with eyes.

Refer to section 8 for personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel to safe areas.

Environmental precautions:

Environmental PrecautionsRefer to protective measures listed in Sections 7 and 8.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Methods and material for containment and cleaning up:

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other Non-combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

SECTION 7: Handling and storage

Precautions for safe handling:

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. 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.

Conditions for safe storage, including any incompatibilities:

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.

Personal Protective Equipment:

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.

Other Protect:

No smoking，drinking and eating at working site. Wash thoroughly after handling.

SECTION 9: Physical and chemical properties

PhysicalState	Form: prismatic
	Color: white
	Odour: Odourless
	Odor Threshold: No information available

Change in condition:	
pH, with indication of the concentration	Not determined.
Melting point/freezing point	Not determined.
Initial boiling point and Boiling range:	Not determined.
Flash Point	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Auto-ignition temperature	Product is not self-igniting.
Decomposition temperature	Not determined.
Other Information	No further relevant information available.

SECTION 10: Stability and reactivity

Reactivity: Stable under recommended storage and handling conditions (see section 7).

Chemical stability: Stable under normal conditions of use, storage and transport.

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous Polymerization: Hazardous polymerization does not occur.

Conditions to avoid: Strong heating, fire, Incompatible materials.

Incompatible materials: Strong oxidizing agents. Strong acids.

Hazardous Decomposition Products: Carbon oxides, other irritating and toxic gases.

SECTION 11: Toxicological information

Acute toxicity: No data available.

Skin corrosion/irritation: No irritant effect.

Serious eye damage/irritation: Cause serious eye irritation.

Respiratory or skin sensitization: No sensitizing effects known.

Specific target organ system toxicity: No information available.

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

SECTION 12: Ecological information

Toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No information available.

SECTION 13: Disposal considerations

Waste treatment methods:

Recommendation: 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.

Other disposal recommendations:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

The product had been tested according to the requirements of the UN manual of tests and Criteria, Part III, subsection 38.3 (see section 2)

EmS No: F-A ,S-I

Marine pollutant: No

Environmental hazards: Not applicable.

Special precautions for user: Not applicable.

Proper Shipping name: Lithium ion batteries

Hazard Class: Class 9

UN/ID Number: UN3480

Packaging Group: II

Maritime transport:

Label for conveyance: Class 9 lithium battery hazard label

The goods are complied with the requirements of Packing Instruction LP903 of IMDG CODE (Amdt. 41-22) (2022 Edition).

Land transport:

Label for conveyance: Class 9 lithium battery hazard label

The goods are complied with the requirements of Packing Instruction LP903 of Agreement concerning the International Carriage of Dangerous Goods by Road (ADR 2025).

SECTION 15: Regulatory information

International Regulation:

GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS)

Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations

IATA Dangerous Goods Regulations (DGR)

INTERNATIONAL MARITIME DANGEROUS GOODS CODE (IMDG CODE)

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)

EU Regulation:

Regulation (EU) 2020/878: Revised Requirements for EU Safety Data Sheets

EU regulation (EC) 1272/2008 on "Classification, Labeling and Packaging of Substances and Mixtures" (CLP)

Registration，Evaluation and Authorization of Chemicals（REACH）

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

US Regulation:

American National Standard for Hazardous Workplace Chemicals – Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation

US DOT， Code of Federal Regulations, Title 49, Transportation, PT. 100-185

SECTION 16: Other information

This file is only effective to the batteries（CIESS 60） provided by commissioner Sunwoda Energy Technology Co.,Ltd.. The commissioner provides the composition information of batteries, and promises its integrity and accuracy. Users should read this file carefully, and use the batteries in correct method. CVC Testing Technology Co., Ltd. (CVC) doesn't assume responsibility for any damage or loss because of misuse of batteries.

Important

1. The test report is invalid without the official seal of CVC.
2. Nobody is allowed to photocopy or partly photocopy this test report without written permission of CVC.
3. The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
4. The test report is invalid if altered,
5. Objections to the test report must be submitted to CVC within 15 days,
6. This report is valid for the samples provided by commissioner only.

**The test data and test results given in this test report should only be used for purposes of scientific research, teaching and internal quality control when the CMA symbol is not presented. **

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