Test Report issued under the responsibility of:

TEST REPORT
IEC 60086-4
Primary batteries
Part 4: Safety of lithium batteries

Report Number. ..... :	SZES230400260701
Date of issue ..... :	2023-05-10
Total number of pages ..... :	13 Pages
Name of Testing Laboratory preparing the Report ..... :	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Applicant's name ..... :	Zhaoqing Newleader Battery Industry Co., Ltd.
Address ..... :	Newleader Industry Building, Dinghu Industry Zone, Zhaoqing, Guangdong, China
Test specification:	
Standard ..... :	IEC 60086-4: 2019
Test procedure ..... :	SGS-CSTC
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60086_4C
Test Report Form(s) Originator .... :	DEKRA
Master TRF ..... :	Dated 2019-06-19

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	Lithium Manganese-Dioxide Coin cell
Trade Mark ..... :	NL
Manufacturer ..... :	Same as applicant
Model/Type reference ..... :	CR2032
Ratings ..... :	Rated Voltage: 3,0 V d.c. Rated Capacity: 240 mAh

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

☒	**Testing Laboratory:**	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch	
Testing location/ address ..... :		No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China	
Tested by (name, function, signature) ..... :		Locs Lai / Project Engineer	
Approved by (name, function, signature) ... :		Sunny Guan / Report Reviewer	

List of Attachments (including a total number of pages in each attachment):

Attachment 1: 1 page of Photos;

Attachment 2: 5 pages of Information for safety;

Attachment 3: 1 page of Information for Packaging;

Attachment 4: 1 page of Product specification;

Attachment 5: 1 page of ISO9001 Certificate.

Summary of testing:

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

This report was issued base on original test report ref. No.: SZES201000712501 dated 2020-11-11, with following change:

- Added marking plate of battery, see marking plate for detail;
- Updated transport report No.;

After comparation, no additional test was considered necessary.

Remark:

1. Only cell was considered and tested according to standard in this report.

2. Transport tests was considered in this report and tested according to UN38.3 by Vkan Certification & Testing Co., Ltd (Test report: RZUN2021-0485).

Tests performed (name of test and test clause):	**Testing location:**
☒6.4.1 Altitude ☒6.4.2 Thermal cycling ☒6.4.3 Vibration ☒6.4.4 Shock ☒6.5.1 External short-circuit ☐6.5.2 Impact ☒6.5.3 Crush ☒6.5.4 Forced discharge ☒6.5.5 Abnormal charging ☒6.5.6 Free fall ☒6.5.7 Thermal abuse ☐6.5.8 Incorrect installation ☐6.5.9 Overdischarge	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China

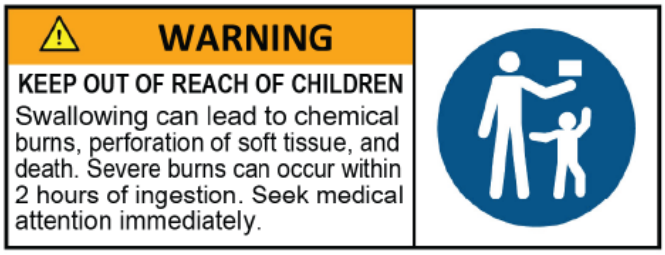
Summary of compliance with National Differences: None

☒ **The product fulfils the requirements of EN IEC 60086-4:2019**

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Cautionary advice shall be given on the immediate package



IEC

Remark:

1. The safety sign should be on contrasting background. The background should cover at least 50 % of the area of the pictogram.
2. Safety sign shall not be less than 6 mm in diameter.
3. Caution for ingestion of swallowable batteries shall be marked on the cells with difference label templates directly since April 2021.

Test item particulars.....:	--
Classification of installation and use.....:	--
Supply Connection.....:	--
.....:	--
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item .....:	Original date: 2017-11-24
Date (s) of performance of tests.....:	Original date: 2017-11-24 to 2017-12-18

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... : Same as applicant

General product information and other remarks:

Product description:	Lithium Manganese-Dioxide Coin cell
Systems:	Lithium/ Manganese dioxide
Model of cell:	CR2032
Designation of cell:	CR2032
Rated voltage of cell:	3,0 V
Rated capacity of cell:	240 mAh
Max. continuous discharge current:	8 mA
Standard discharge current:	0,2 mA

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
4	**REQUIREMENTS FOR SAFETY**		P
4.1	**Design**		P
	a) Abnormal temperature rise above the critical value prevented		P
	b) Temperature increases in the battery controlled		P
	c) Lithium cells and batteries designed to relieve excessive internal pressure or to preclude a violent rupture under conditions of transport, intended use and reasonably foreseeable misuse	Cell: Gasket was used as pressure relief mechanism to relieve excessive internal pressure.	P
4.2	**Quality plan**		**P**
	Manufacturer prepared and implemented a quality plan defining the procedures for the inspection of materials, components, cells and batteries during the course of manufacture, to be applied to the total process of producing a specific type of battery	ISO 9001 certificate was submitted. See attachment 5 for detail.	P
	Manufactures understood their process capabilities and instituted the necessary process controls as they relate to product safety		P
5	**TYPE TESTING AND SAMPLING**		P
5.1	**Validity of testing**		P
5.2	**Test samples**	(See table 1)	P
6	**TESTING AND REQUIREMENTS**		P
6.1	**General**		P
6.1.1	Test application matrix	(See table 1)	P
	s: cell or single cell battery ……:	Cell	P
	m: multi cell battery ……..:		N/A
6.1.3	Ambient temperature (°C) ..... :	20°C ± 5°C	—
6.1.4	Parameter measurement tolerances		P
6.1.5	Predischarge		P
6.1.6	Additional cells		N/A
6.2	**Evaluation of test criteria**		P
6.2.1	Short-circuit		P
6.2.2	Excessive temperature rise		P
6.2.3	Leakage		P
6.2.4	Venting		P
6.2.5	Fire		P
6.2.6	Rupture		P
6.2.7	Explosion		P
6.3	**Tests and requirements – Overview**	(See table 1)	P

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
6.4	**Tests for intended use**		P
6.4.1	Test A: Altitude ……..……..:	(See appended table 1)	P
6.4.2	Test B: Thermal cycling ...……..……..:	(See appended table 1)	P
6.4.3	Test C: Vibration ……..……..……..:	(See appended table 1)	P
6.4.4	Test D: Shock ……..……..……..:	(See appended table 1)	P
6.5	**Tests for reasonably foreseeable misuse**		P
6.5.1	Test E: External short-circuit ……..……..:	(See appended table 1)	P
6.5.2	Test F: Impact ……..……..……..:		N/A
6.5.3	Test G: Crush ……..……..……..:	(See appended table 1)	P
6.5.4	Test H: Forced discharge ..……..……..:	(See appended table 1)	P
6.5.5	Test I: Abnormal charging ……..……..……..:	(See appended table 1)	P
6.5.6	Test J: Free fall ……..……..……..:	(See appended table 1)	P
6.5.7	Test K: Thermal abuse ……..……..:	(See appended table 1)	P
6.5.8	Test L: Incorrect installation ……..…..:		N/A
6.5.9	Test M: Overdischarge ……..……..:		N/A
6.6	**Information given in the relevant specification**		P
	a) Predischarge current or resistive load and end-point voltage specified by the manufacturer…….:	15 KΩ to 2,0 V end-point voltage	P
	b) Method to measure the energy of an explosion, if any ……..……..:	Energy of an explosion is cell will not penetrate a wire mesh screen as describe in clause 6.2.7 a).	N/A
	c) Shape: prismatic, flexible, coin or cylindrical Diameter: less than 18 mm or not less than 18 mm ….……..……..……..:	Coin cell, diameter is 19,93 mm, not less than 18 mm	P
	d) Maximum continuous discharge current specified by the manufacturer for test H……..:	8,0 mA in the cell specification	P
	e) Rated capacity specified by the manufacturer for test H……..:	Rated capacity is 240 mAh	P
	f) Abnormal charging current declared by the manufacturer for test I ….……..……..:	Abnormal charging current is 8 mA by the manufacturer's declared.	P
	g) Normal reverse current declared by the manufacturer which applied to the battery during its operating life……..:	Normal reverse current is 8 mA by the manufacturer's declared.	P
7	**INFORMATION FOR SAFETY**		P
7.1	**Safety precautions during design of equipment**	Should be considered by the end product	N/A
7.1.1	General		N/A
7.1.2	Charge protection		N/A

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
7.1.3	Parallel connection		N/A
7.2	**Precautions during handling of batteries**	See Attachment 2 for detail	N/A
7.3	**Packaging**		P
7.4	**Handling of battery cartons**		P
7.5	**Transport**	UN38.3 test report was submitted. Report No. RZUN2021-0485 by Vkan Certification & Testing Co., Ltd.	P
7.5.1	General		P
7.5.2	Air transport		P
7.5.3	Sea transport		P
7.5.4	Land transport		P
7.6	**Display and storage**	See Attachment 2	P
7.7	**Disposal**	See Attachment 2	P
8	**INSTRUCTIONS FOR USE**	See Attachment 2	P
9	**MARKING AND PACKAGING**		P
9.1	**General**		P
9.2	**Swallowable batteries**	Diameter is 19,93 mm. Cautionary advice would be given on the immediate package.	P
9.3	**Safety pictograms**	Safety pictograms were seen on specification.	P
ANNEX A	**(INFORMATIVE) GUIDELINES FOR THE ACHIEVEMENT OF SAFETY OF LITHIUM BATTERIES**		P
ANNEX B	**(INFORMATIVE) GUIDELINES FOR DESIGNERS OF EQUIPMENT USING LITHIUM BATTERIES**		N/A
ANNEX C	**(INFORMATIVE) ADDITIONAL INFORMATION ON DISPLAY AND STORAGE**		P
ANNEX D	**(INFORMATIVE) SAFETY PICTOGRAMS**		P
D.1	**General**		P
D.2	**Pictograms**		P
D.3	**Instruction for use**		P
ANNEX E	**(NORMATIVE) CHILD RESISTANT PACKAGING OF COIN CELLS**	Coin cell is used to assemble battery, not intended for direct sale in consumer-replaceable applications.	N/A
E.1	**General**		N/A
E.2	**Applicability**		N/A

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
E.3	**Packaging tests**		N/A
E.3.1	General		N/A
E.3.2	Test items		N/A
E.3.3	Test procedure		N/A
E.3.4	Criteria		N/A
ANNEX F	**(INFORMATIVE) USE OF THE KEEP OUT OF REACH OF CHILDREN SAFETY SIGN**		P
F.1	**General**		P
F.2	**Safety sign**		P
F.3	**Best practices for marking the packaging**		P
F.4	**Best practices for marking the cell**		P

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Critical components information				--
Object / part No.	**Manufacturer / trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
Cell	Zhaoqing Newleader Battery Industrial Co., Ltd.	CR2032	3,0 V, 240 mAh	IEC 60086-4: 2019 EN IEC 60086-4: 2019	Tested with appliance
- Electrolyte	Zhaoqing Newleader Battery Industrial Co., Ltd.	--	--	--	--
- Separator	--	--	PP Dimensions: 17mm(d) * 0,16 mm	--	--
-Negative electrode	--	--	Dimensions: 17 mm * 0,6 mm Specific capacity: 3846 mAh/g	--	--
- Positive electrode	--	--	MnO_2 Dimensions: 16,5 mm (d)* 1,9 mm Specific capacity: 308 mAh/g	--	--
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE 1 (clause 6.4.1 – 6.5.9)				P
Tests	**Cell / battery type**	**Discharge state**	**Number of test sample**	**Test result**	**Verdict**
A to E	Cells and single cell batteries	Undischarged	10	Tests A-D: NL, NV, NC, NR, NE, NF Test E: NT, NR, NE, NF	P
		Fully discharged	10	Tests A-D: NL, NV, NC, NR, NE, NF Test E: NT, NR, NE, NF	P
	Multi-cell batteries	Undischarged	4		N/A
		Fully discharged	4		N/A
F	Cells and single cell batteries	Undischarged	5		N/A
		Fully discharged	5		N/A
	Multi-cell batteries	Undischarged	5 component cells		N/A
		Fully discharged	5 component cells		N/A
G	Cells and single cell batteries	Undischarged	5	NT, NE, NF	P
		Fully discharged	5	NT, NE, NF	P
	Multi-cell batteries	Undischarged	5 component cells		N/A
		Fully discharged	5 component cells		N/A
H	Cells and single cell batteries	Fully discharged	10	NE, NF	P
	Multi-cell batteries	Fully discharged	10 component cells		N/A
I to K	Cells and single cell batteries	Undischarged	5	Tests I, K: NE, NF. Tests J: NV, NE, NF Test Duration: 21,51 hrs for the test I	P
	Multi-cell batteries	Undischarged	5		N/A
L	Cells and single cell batteries	Undischarged	20		N/A
M	Cells and single cell batteries	50 % predischarged	20		N/A
		75 % predischarged	20		N/A

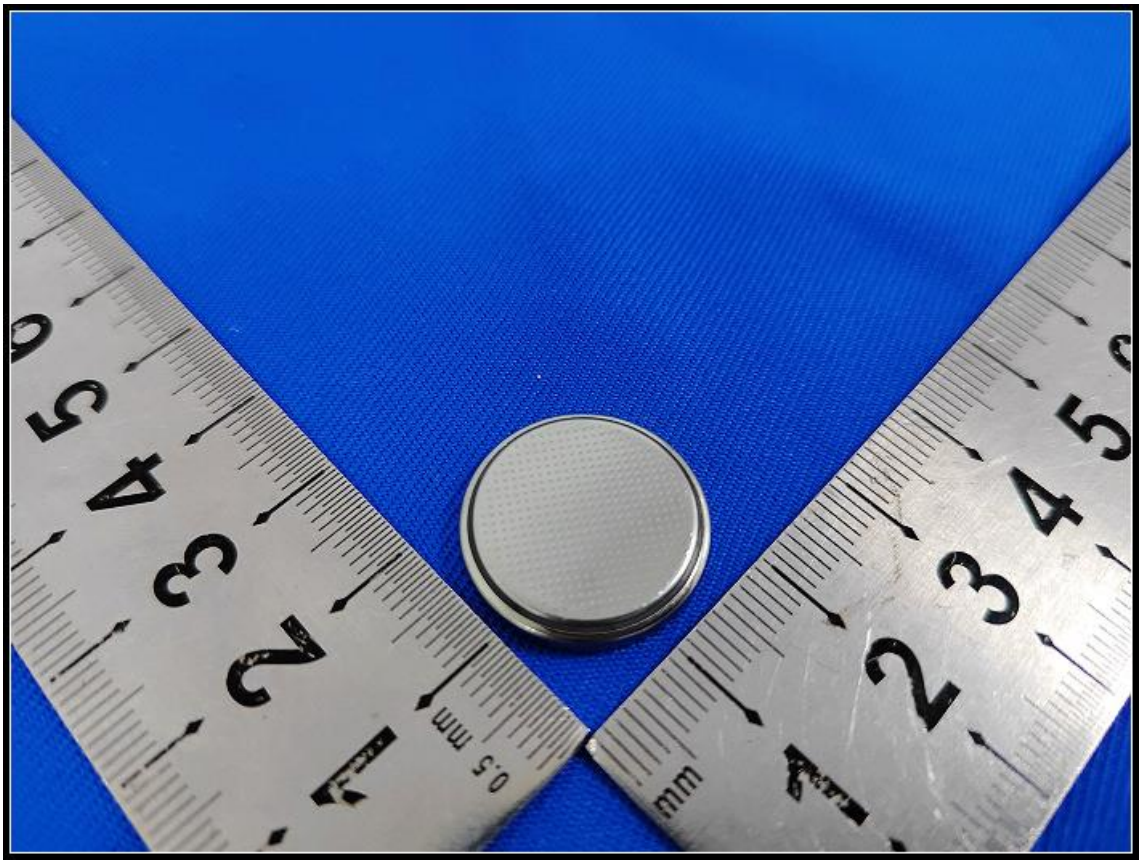
IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
NC: No short-circuit
NE: No explosion
NF: No fire
NL: No leakage
NR: No rupture
NT: No excessive temperature rise
NV: No venting

--End of Report--

Attachment 1 Photo documentation

Whole unit



- - - End of Attachment 1 - - -

Attachment 2 Information for safety

Precautions during handling of batteries

When used correctly, lithium batteries provide a safe and dependable source of power. However, if they are misused or abused, leakage, venting or in extreme cases, explosion and/or fire can result.

a) Keep batteries out of the reach of children

In particular, keep batteries which are considered swallowable out of the reach of children, particularly those batteries fitting within the limits of the ingestion gauge as defined in Figure 8. In case of ingestion of a cell or battery, seek medical assistance promptly. Swallowing coin cells or batteries can cause chemical burns, perforation of soft tissue, and in severe cases can cause death. They need to be removed immediately if swallowed. See Figure 9 for an example of appropriate warning text.

Warning text similar to Figure 9 may be used for safety information about battery handling. For cautionary advice and symbols to be printed on batteries and battery packagings refer to Clause 9.

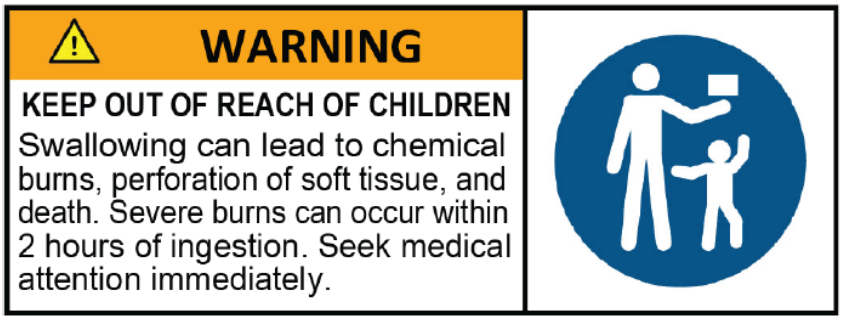


Figure 9 – Example for warning against swallowing, particularly coin cell batteries

b) Do not allow children to replace batteries without adult supervision

c) Always insert batteries correctly with regard to polarity (+ and –) marked on the battery and the equipment

When batteries are inserted in reverse they might be short-circuited or charged. This can cause overheating, leakage, venting, rupture, explosion, fire and personal injury.

d) Do not short-circuit batteries

When the positive (+) and negative (–) terminals of a battery are in electrical contact with each other, the battery becomes short-circuited. For example loose batteries in a pocket with keys or coins, can be short-circuited. This can result in venting, leakage, explosion, fire and personal injury.

e) Do not charge batteries

Attempting to charge a non-rechargeable (primary) battery can cause internal gas and/or heat generation resulting in leakage, venting, explosion, fire and personal injury.

f) Do not force discharge batteries

When batteries are force discharged by means of an external power source, the voltage of the battery will be forced below its design capability and gases will be generated inside the battery. This can result in leakage, venting, explosion, fire and personal injury.

g) Do not mix new and used batteries or batteries of different types or brands

When replacing batteries, replace all of them at the same time with new batteries of the same brand and type. When batteries of different brand or type are used together or new and used batteries are used together, some batteries might be over-discharged / force discharged due to a difference of voltage or capacity. This can result in leakage, venting, explosion or fire, and can cause personal injury.

h) Exhausted batteries should be immediately removed from equipment and properly disposed of

When discharged batteries are kept in the equipment for a long time, electrolyte leakage can occur causing damage to the equipment and/or personal injury.

i) Do not heat batteries

When a battery is exposed to heat, leakage, venting, explosion or fire can occur and cause

Attachment 2 Information for safety

personal injury.
j) Do not weld or solder directly to batteries
The heat from welding or soldering directly to a battery can cause leakage, venting, explosion or fire, and can cause personal injury.
k) Do not dismantle batteries
When a battery is dismantled or taken apart, contact with the components can be harmful and can cause personal injury or fire.
l) Do not deform batteries
Batteries should not be crushed, punctured, or otherwise mutilated. Such abuse can cause leakage, venting, explosion or fire, and can cause personal injury.
m) Do not dispose of batteries in fire
When batteries are disposed of in fire, the heat build-up can cause explosion and/or fire and personal injury. Do not incinerate batteries except for approved disposal in a controlled incinerator.
n) A lithium battery with a damaged container should not be exposed to water
Lithium metal in contact with water can produce hydrogen gas, fire, explosion and/or cause personal injury.
o) Do not encapsulate and/or modify batteries
Encapsulation or any other modification to a battery can result in blockage of the pressure relief mechanism(s) and subsequent explosion and personal injury. Advice from the battery manufacturer should be sought if it is considered necessary to make any modification.
p) Store unused batteries in their original packaging away from metal objects. If already unpacked, do not mix or jumble batteries
Unpacked batteries could get jumbled or get mixed with metal objects such as keys, coins, etc. This can cause battery short-circuiting which can result in leakage, venting, explosion or fire, and personal injury. One of the best ways to prevent this from happening is to store unused batteries in their original packaging.
q) Remove batteries from equipment if it is not to be used for an extended period of time unless it is for emergency purposes
It is advantageous to remove batteries immediately from equipment which has ceased to function satisfactorily, or when a long period of disuse is anticipated (e.g. camcorders, digital cameras, photoflash, etc.). Although most lithium batteries on the market today are highly leak resistant, a battery that has been partially or completely exhausted might be more prone to leak than one that is unused.
Packaging
The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and packaging design shall be chosen so as to prevent the development of unintentional electrical contact, short-circuit, shifting and corrosion of the terminals, and afford some protection from the environment.
Handling of battery cartons
Battery cartons should be handled with care. Rough handling might result in batteries being short-circuited or damaged. This can cause leakage, explosion, or fire.
Display and storage
a) Store batteries in well ventilated, dry and cool conditions
High temperature or high humidity can cause deterioration of the battery performance and/or surface corrosion.
b) Do not stack battery cartons on top of each other exceeding a specified height
If too many battery cartons are stacked, batteries in the lowest cartons might be deformed and electrolyte leakage can occur.
c) Avoid storing or displaying batteries in direct sun or in places where they get exposed to rain
When batteries get wet, their insulation resistance might be impaired and self-discharge and corrosion can occur. Heat can cause deterioration.
d) Store and display batteries in their original packing
When batteries are unpacked and mixed they can be short-circuited or damaged.
See Annex C for additional details.
Disposal

Attachment 2 Information for safety

Batteries may be disposed of via communal refuse arrangements provided no local rules to the contrary exist.
During transport, storage and handling for disposal, the following precautions should be considered:
a) Do not dismantle batteries
Some ingredients of lithium batteries might be flammable or harmful. They can cause injuries, fire, rupture or explosion.
b) Do not dispose of batteries in fire except under conditions of approved and controlled incineration
Lithium burns violently. Lithium batteries can explode in a fire. Combustion products from lithium batteries can be toxic and corrosive.
c) Store collected batteries in a clean and dry environment out of direct sunlight and away from extreme heat
Dirt and wetness might cause short-circuits and heat. Heat might cause leakage of flammable gas. This can result in fire, rupture or explosion.
d) Store collected batteries in a well-ventilated area
Used batteries might contain a residual charge. If they are short-circuited, abnormally charged or force discharged, leakage of flammable gas might be caused. This can result in fire, rupture or explosion.
e) Do not mix collected batteries with other materials
Used batteries might contain residual charge. If they are short-circuited, abnormally charged or force discharged, the generated heat can ignite flammable wastes such as oily rags, paper or wood and cause a fire.
f) Protect battery terminals
Protection of terminals should be considered by providing insulation, particularly for those batteries with a high voltage. Unprotected terminals might cause short-circuits, abnormal charging and forced discharge. This can result in leakage, fire, rupture or explosion.

Instructions for use

a) Always select the correct size and type of battery most suitable for the intended use. Information provided with the equipment to assist correct battery selection should be retained for reference.
b) Replace all batteries of a set at the same time.
c) Clean the battery contacts and also those of the equipment prior to battery installation.
d) Ensure that the batteries are installed correctly with regard to polarity (+ and –).
e) Remove exhausted batteries promptly.

Attachment 2 Information for safety

Safety Pictogram

The pictogram recommendations and cautionary advice are given in Table

Reference	Safety pictogram	Cautionary advice
A		DO NOT CHARGE
B		DO NOT DEFORM OR DAMAGE
C		DO NOT DISPOSE OF IN FIRE
D		DO NOT INSERT INCORRECTLY
NOTE The grey shading highlights a white margin appearing when the pictogram is printed on coloured or black background.		

Reference	Safety pictogram	Cautionary advice
E		KEEP OUT OF REACH OF CHILDREN NOTE 1 See 7.2a) for critical safety information NOTE 2 This pictogram has been submitted to ISO TC 145 for standardisation in [18] NOTE 3 See also Annex F
F		DO NOT MIX DIFFERENT TYPES OR BRANDS
G		DO NOT MIX NEW AND USED
H		DO NOT OPEN OR DISMANTLE
I		DO NOT SHORT CIRCUIT
J		INSERT CORRECTLY
NOTE The grey shading highlights a white margin appearing when the safety pictogram is printed on coloured or black background.		

Attachment 2 Information for safety

Instruction for use

The following instructions are provided for use of the safety pictograms.
a) Safety pictograms should be clearly legible.
b) Whilst colours are permitted, they should not detract from the information displayed. If colours are used, the circle and diagonal bar of pictograms A to D and F to I should be red and the background of pictograms E and J should be blue.
c) Not all of the safety pictograms need to be used together for a particular type or brand of battery. In particular, safety pictograms D and J are meant as alternatives for a similar purpose.

- - - End of Attachment 2 - - -

Attachment 3 Packaging

- - - End of Attachment 3 - - -

Attachment 4 Product specification

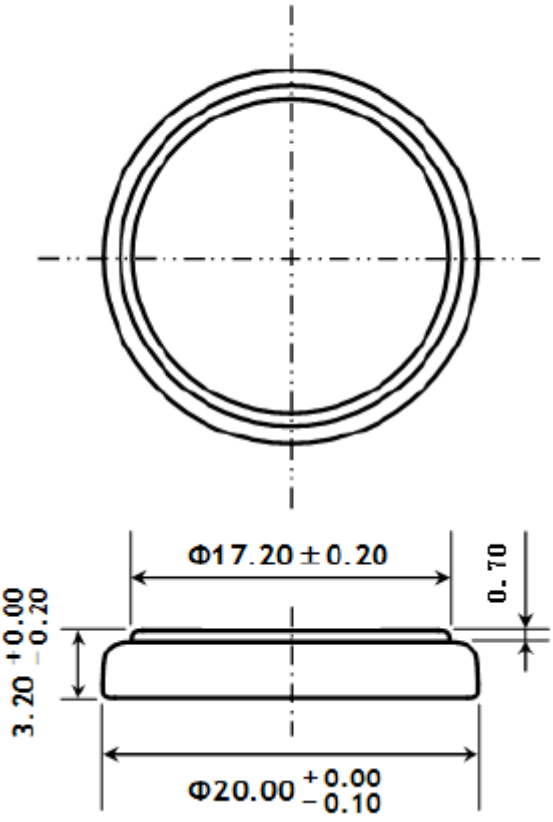
Specification of Cell

3、Nominal voltage ： 3.0V

5、Nominal Capacity

240±5%mAh（20±2℃，RH：45%～75%， Rated at 15KΩ, continuous discharging to the End-point Voltage of 2.0V.）

Max.continuous discharge current	8mA
Standard discharge current	0.2mA
Abnormal charging current	8mA
Normal reverse current	8mA



- - - End of Attachment 4 - - -

Attachment 5 ISO 9001 certificate

Certificate CN02/31015.02

The management system of

Zhao Qing New Leader Battery Industry Ltd.

Business Registration Address: Chuangye Road, No. 10 Section, Dinghu New Industrial Park, Zhaoqing City, Guangdong Province, P.R. China
Business Operation Address: Chuangye Road, No. 10 Section, Dinghu New Industrial Park, Zhaoqing City, Guangdong Province, P.R. China

Unified Social Credit Code 91441200732167164K
has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

Design and manufacture of zinc-manganese button batteries, zinc-silver oxide button batteries, lithium-manganese button batteries, zinc-manganese R6/R03 cylindrical batteries and zinc-manganese stacked batteries

This certificate is valid from 13 December 2020 until 12 December 2023 and remains valid subject to satisfactory surveillance audits.
Recertification audit due a minimum of 60 days before the expiration date
Issue 10. Certified since 13 December 2002

Multiple certificates have been issued for this scope
The main certificate is numbered CN02/31015.00

Authorised by

SGS United Kingdom Ltd
Rossmore Business Park Ellesmere Port Cheshire CH65 3EN UK
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The certification information can be verified on the web site of Certification and Accreditation Administration of the People's Republic of China www.cnca.gov.cn

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