# NO.262201@85

C/VAS INSPECTION

### CNAS IB0071

*SA FE T Y D A TA SH£E T*

Polymer Li-ion battery 552030 3.7V Produt Name: 235 Ah 0. 87fih

Effective Date: 2022—01—21

Compiler:  Checker: Approver: 

# \ $flSllng C0., bU.



Shenzhen Yuanyin Electronic Technology Co., Ltd.

SAFETY DATA SHEET

Polymer Li-ion battery **55203037V** 235mAh 0.87Wh

## SECTIONS PRODUCT AND COMPANY IDENTIFICATION

##### Product naae:

Company:

**Address:**

Polymer Li—ion batt cry W52030 3. 7¥ 2.3Wnâh 0. 871Ih Shenzhen ¥uany i n Electron i c 1 echnol ogy Co. , I.t fi.

In i t 710, Eni t 3, No. 34, Da i sa I n‹ltistr ia I Zone, Guancheng Consnun i t y, Gtianhu St re ct ,

Lorighua Di Stz i ct , She I en CJ t›, fiuangdong Prov i nce, 5t8110, P. R. Ci i»a

**Email:** 27 l262030£4qq. con

Fax : 86-755—29483965

**Emergency** Phone: SG—7.55—2948396.5

Recommend **use of the** chezi cal and **restri** etions on **use: /**

SDS **Puaber:**

**Effective Date:**

**2622010485**

**SECTION2 HAZARDS IDENTIFICATION**

The product is out st de of the scope of GHS syst en.

Main Hazards:

Fire or Explos ion Hazards:

L i Ihi url i on bat tery contai ns flamab1e li gut d e I ectro1yt e tha t ma y vent, i gn i te and produce sparhs z•hen sub jected to hi gh teinperat ures (/150‘C) , when dalhaged or abused (e. g. , Meehan i ca1 damage or e1ec tr i cal overehargi ng) . May burn rapt dly vi th flare—burning effect. day ignite other bat teri es in close pi-ox tier t y.

Health hazards:

Contact with the e1ec tro 1yte of battery may be irri tating to skin, eye s and murous membranes. F i re yr 11 produce i rri tat ing, corrosive and/or toxi c gases. Fumes may cause di zz i ness or suf f oca t ion.

Product neae:

**SECTION3 INFORMATION ON INGREDIENTS**

Polyner Li —ion bat tery 552030 ?3. 7¥ 235nAh 0. 87Vh

Ingredient Goncentration GAS No. EG No.

L i thiuni cobalt oxide 41. 45/ 12190—79—3 235—362—0 1/7

|  |  |  |  |
| --- | --- | --- | --- |
| Graphi te | 22. 85\ | 7782-42—5 | 231—955—3 |
| Copper | 7. OSS | T440-50-8 | 2J1-l.59—6 |
| Carbon nano tubes | 4. 2\ | 1333-80-4 | 215-609-9 |
| Aluini nun | 3. 62$ | T429-90-5 | 231-0T2-3 |
| Other | 3. 21$ | / | / |
| Phosphate (1—) hexafluoro—1 i thi ue | 2.T5% | 21324-40-3 | 243-334-T |
| Po1y (v iny1i dene fluor ide) | 2. 556 | 24937 79—9 | 60T—458—6 |
| ñethy1 ethy1 carbonate | 2. 1& | 623—53—0 | 613—01'l 2 |
| hi cke1 | 2. 06\ | 7440—02—0 | 2.31—111—4 |

**SECTION4 FIRST-AID MEASURES**

Skin **Exposure:**

I f in contact vi th the int ernal eat er i al s of bat t‹ ry, rr:siove the cont aini nated c lot hing , shoes and socks,

iionedi ate 1y fl ush vi th plenty of z'ater for at 1east 20 mi nut es. Call a phys i ci an.

Eye Exposure:

I f i n contact vi Ih t he i nt ernal nater tale rat ma I t tory, 1. i I t your eyel i ds tunics i ate yI running vat er for nore than 20 or nut es. Cal 1 a phys ici an.

Inhalation Exposure:

and r i rise theiii i th

I f t he int ernal nat er i al s ul tint I cry are inha1efl, iced iately renove to 1i i!sh at r. I f breath rug is di ffi r;ul t give oxygen. I f not breat.lii ng, gi ve art i f i ci a1 resp i rati on. Call a phys ie ian.

Oral Exposure:

Do not i ndrice vomi t ing i f the i nt ernal mat cr i all of bat t cry are swal Ioweil. Call a physi ci an i nnicd i at cly.

Most Important S toms/Effects, Acute and Delayed:

No rlat a avai lab1e.

Indication of lamedi ate 1\tedi cal Attention and Spec ia1 Treatment Needed, if Necessary :

No data avai 1ab1e.

## SECTIONS FIRE FIGHTING MEASURES

Suitable Extinguishing i\tedi a:

Su i talk1e : Vat er spray or regular foan.

Specific Hazards Hi sing from the Chezi cal:

day decompose upon conbust ion to generate i rr i tat ing, cor rosive or too i c fumes. F nice s iiiay Maus e di zz i ness

or suf fon a t i on.

Special Protective Action for Fire—fighters :

Protect ive Equi pnent: Year self—contained breathing apparatus and protective clothing to prevent contact yr I h sk i n and eyes. Fi re—ext i ngui sh ing work is done fron the wi ndward. Un i nvo1ved persons shout d evacua te to a safe place.

**SECTION6 ACCIDENTAL RELEASE MEASURES**

**Personal** Precautions, Protective Equipment and Emergency Procedures:

NJ.se pe rsonal prot ect ive equ i pnent. Ensure adequate vent i 1at ion. keep peop1e away from Ohr1 ups i nil of spi 11/1eak. Entry t o noni nvol ved per sonne1 shoul d be contro11ed around the leakage area by roping off. Reiiiove all sources of i gni ti on.



Environmental Precautions:

Evo id 1eakage gott ing into the earth, d i I ches or eat ers. Evo i d di rect ly releas ing the cash ing was IH —Wet cr

i nt o t he env iroruicnt.

Methods and lfateria1s for Containment and Cleaning up:

I f t he elec t re 1yte 1eaks, use soi 1, sand or other non—conbust ib1e mat er i al s t o absorb. The leaked bat t en es

and di rt y adsorben t s shout d be p laced i n iIieta1 cont ai ne rs.

SECTION7 HANDLING AND STORAGE

Precautions for Safe handling:

Oper a tors shou Id be trained and str i ct 1y abide by operat ing procedures. Year appYO r i at e prot ec I ive clothing and safety gloves. keep away from i gnit ion sources, heat and f lane. No srnok i ng at work ing s i t e. Hand1ing i s per f oriiied in a we1. 1 vent i lat ed place. Av oi d di sas seirb1i rig the bat tery at yr 11 and reversi ng bat tery po lar i ty wi thi n the bat tery assenb1y. The bat tery nust be I i i’inl y packccl in inner packag i ng so as t o ef feet i vely prevent short ri i cut ts and shor t ci rcui ts caused by iiiov cinent . I f t he

e I ect ro1y te 1eak s, avo i cl cl irec t1y contact ing yr th eyes and skin. Avoi fi i nhala I ion. I ncoiiipat i b i 1i t res:

Strong ox idi zing agent s, c‹aobust ible noteri ml s and rorr osii' es.

Conditions for Safe Storage, Including by Incoblpatibi1iti es:

Store in a cool, dry, anal z elf —venti lay ed area. keep away from igni t i on sotirc es, heat and flaiiie.

Incozpat i b i I i t i es : Strong oxi di z i rig agents, cozhu st i b Ie znt ei ial s and corrosi ves. The bat t ery cue I be fi rcil y packed in i nner packaging so as to e I fec t i vely prevent short. c ircui ts anal short ci rcui t s causecl b y movement. Storage place shoul rI be eqn i pped z i th appropri at e var iet res and quan t i t i es of I i re fi ght i ng equi pinent and leakage emergency treatlflent equi pinen t.

SECTION8 EXPOSURE CONTROLfPPE

Control Parameters:

GBZ 2. 1—2019 0c cupal i onal kxpo sui’e L ini t s for Hazardous /\ gents i n I tie h'orkp lace — Part I : Chelni cal Hazat-dous Agent s :

Cobalt and compounds, as C0 FC-TBA 0. 0.5og/m PC-STEl 0. 1mg/m ]Rmzarks: G2fl, Sensili,ation

Graphite dust: PC—TBA 4 eg/n" T‹ii ml ‹lust I ; PC—US 2 nig/'ir‘ Reap i rable dust

Copper ( cal culat ed as tu): Copper dust PC-T\I.1 1 +g,'ai . Copper smoke PC—T?'A 0. 2 rug/in' Cat lion nanot ubes: Carbon b1 ack dus t : PC—TH A 4 rig/z" I tor al dust ). G2B

A I uiiii num net at , alum i nun all oy dust : PC—THE 3 rug/m I To tal dust 0

Metal 1ie ni eke1 and insolub Ie ni ckel compounds: PC—T\i!,\ 1ng/ o‘ Renark: G2B ( diet a1s atid all oys )

Graphi te: fl.V—TBA 2 ing7u“

Copper: TLV-TVA 1 mg Cu ) /n' Dust, snoke ; TU—â Vñ 0. 2 mg I Cu ) /m’ Smoke Carbon nanotube s : TU—TBA 3 zg/ z , inhalob le dust

Al uiii i nuiii: TU—TBA 1 rig/in’

lickel: TEV-TBA 1 mg/m'

Appropriate Engineering Controls :

flechani ea1 exhaust required. Safety shower and eye bath.

Individual Protection measures:

Eye/Face Protection:

Year cheini cat safety glasses if needed.

Skin Protection:

ltand Protect ion: Year safety gloves.

Body Protect ion: if ear appropr i ate protecti ve cl othi ng.

Respiratory Protection:

Seer government appi‘oved r esp i rat or if nee God.

3/T

Thermal Hazards:

to data avai table.

Other Protect:

No snok ing, dri nking and eating at working st te. Cash thoroughly after handl ing.

**SECTION9 PHYSICAL/CHEMICAL PROPERTIES**

Appearance : Si lv cry aluninun foil she11

Odor: Odor1ess

pH Yalue: 8—9

Solubil i ty: Part rat sol uble in water

Boiling Point, No data ava i lab 1e Initial Boi1ing

Point and Boiling Range:

Melting

Point/Freezlng Point:

Flash Point

(Closed Cup) :

/300‘C

No dat a avai I able

Density/Re1attve to data a'/ai tab1 e

Density:

itinemati c Yi scosi ty: Lower/Upper Explosion

Liam t/F1aamab i l i ty Limit

to data avai I able

No G»ta aiailaLle

Vapour Pressure: No dat a nvq i lab Ie

Relative Vapor to dat a ayat I all I e Density:

Partition

Coefficient NOctsnol/Water( Log Yalue)

No dat a avai lab Ie

âutoingnition No data avai lab le

Temperature:

DecoBposition No data available

Temperature:

Particle Characteristics:

Flamabi1i ty (Solid, Gas) :

Reaetivi ty:

to data avai1ah le

No da ta avai labl e

## SECTION10 STABILITY AND REACTIVITY

ho flat a avai lab1e.

## Chemical Stability:

###### Stable under normal temperatures and pressures.

**Possibi** li ty of **Hazardous Reactions:**

'\ o dat a avai lab le.

**Conditions to Avoid:**

4/?

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Ivor d ni soperat ion, exposure to heat and open flame. Avo i d inechani cal or e1ec t r i ca1 abuse an‹l overcharge.

Prevent short c ircui t s and short ci rcui ts caused by movement.

Incompatible llaterials:

S ti ong oxi d i z i ng agent s, combus t i bl e inater i al s arid corrosi yes.

**hazardous Decoaigos** i **ti on Products:**

Carbon ox tcle s, net at a x I ales\* etc.

**SECTION11 TOXICOLOGICAL INFORMATION**

Acute Toxicity:

ho da I a avai 1able.

Skin Corrosion/Irritation:

The e1ectro1yt e in the battery causes skin irri tation.

Serious Eye Daaage/lrri tation:

The electro lyte in the bat tery causes eye i rri ta L i on.

Respiratory Sensitization: fio data avoi 1ab1e.

Carcinogenici ty:

No data avai lab1e.

Skin Sensitization:

ho da t a avai labl e.

Gera Cell liutagenieity:

to dat a avai lable.

Reproductive Toxicity : No data ava i lab Ie.

Specific Target Organ Tozi ci ty -Single Exposure: ho dat a avai Iab1e.

Speci fi e Target Organ Toxicity -Repeated Exposure: No data avai1ab le.

Asplrati on Hazard:

No flat a avai lable.

**SECTION12 ECOLOGICAL INFORMATION**

No rlata avai lable.

**Persistence and Degradabi** 1 i ty :

No data avoi labl e.

Bioaccumulative Potenti a1:

No data avai lab le.

ltobi lity in Soi1:

No da ta avai lable.

Other Adverse Effects:

TO HH{ U fiVSi 1ab1e.

## SECTION13 DISPOSAL CONSIDERATION

Disposal Methods:



The d i sposal of d i scarred bat tery shall comply zi th the requi reinent s of re1 evant laws, regu la t i ons, po1 i c res and standards srich as the ”Lay of the Peop1e’ s Repub1i c of Chi na on I he Prevent ion and Cont ro1 of Fnv i roninontal Po11ut ion by Sol i d hast e” and ”Techni cal Pol i cy for the Prevent ion and Cont ro 1 of hast e Bat t cry Po] 1ut ion“. Contact a 1icensed professional was t e di sposal serv i ce to di spos e of was t es. 1!sed battery be ing I ranspor ted for di sposal or reclainat ion should be carefully checked pri or I o shipiiient t o ensure the i ntegr i t y of each bat tery and i t s su i t ab i 1i ty for transport.

**SECTION14 TRANSPORT INFORMATION**

Only Li thiuoi Battery during Transport:

The product has passed the test i Ieins of IN Code1 kegulat ions, Manual of Test and Cri t er i a Sect ion 38. 3 and IN Code1 Regul at i ons, SP188, 1. 2s drop test. The t otal net ve ight of the Li th i uri bat teri es i s 1ess than ltl kg.

RID/ADR(2021 The product is not restricted to RID/ADR according to special proyirion 188.

Edition) : Accord ing to 2. 2. 9. 1. 7 I g 3 o f RID/PDR (2021 Ed i t ion) , Hanuf ac turer s and subsequent

d i st r i but ors of cell s or batt.er res uanufact ured shall make avai lab Ie t he I est s t«rmary as speci f ie d in the Manual of 'fr:s t s and Cr i t cr i a, Par I I I I, sub—sect ion 38. 3, paragraph 38. 3. 5

IATA D6R (63‘ Prope r Shi ppi rig Tame: L i t lii uin ion batt err es

Edit ion) : IN Number: 1.'N34b0 Hazard Cl as s : 9

The product shal1 neet t.he (General Requ i i event s and sect ion IB of Packaging Inst rue I ion

965.

Ac cordi rig 1 o .â. 9. 2. 6. 1 (g) tif UT.4 DfiR 6h“ 2di t i run) , hanuf an turers and subsequent

d i s tr ibu 1 or s of ce11s or but ter i es inanu I'act.ured aft er :30 June 2003 shal1 wake avai 1ab Ie

the bes 1 s ujjiin‹ir y as spec i I' i nd i n t he Manual of ie st s ‹in rl Ci i t ‹•r i a, Part II I , sub —seet i on

38. 3, par agraph 35. '3. 5.

IM0 I % COOE(2020

Edition) :

The product i s no t r'cs tt-i.‹: tr:d to IM0 Ihl)(i Code ar:ctirdi ng to special provi s ion US.

Accoi’ding to 2. 9. 4. 7 ol lM0 IM)GI0DF(2020 £Jition), Manufactui’ei’s and subsequent

di stribut ors of cells or bat t er i es rnanut act ured shall nake avai lable the t est summary as speci fied in the Manual of Te sts and Cr i t eri a, Part I I I, sub—sect i on 35. 3, paragraph 38. 3. 5.

**SECTION15 REGULATORY INFORMATION**

Ooaiestic Regulati ons:

Only Li thiua **Battery** during Transport:

Regulations Concerning Road Transportation of Dangerous Goods (JT/T 617-20181 .

Uh !\umber: l'N3480

Maine and Deser i pt1on: Li th i union batteries

The product has passed the test itens of ON Model Regulat ions, Manual of fest and Cri ter ia Sect ion 38. 3. The product is not rest rict ed to JT/T 617—2018 according to speci al provi s ion 188.

List **of Oangerous Goods** fCrB **12268-2012** 7 :

IN Nuiiiber: LN3480 Shi ppi ng Name : Li thi uin i on batter i es Pack ing Group: II

The produc I has passed the te st i I ens of IN Model Regulat ions, Manual of Test anal Ct i ter i a feet ion 38. 3.

The product i s no t re st ri cted to GB 12268—2012 acc or di ng to spc ci a1 proci s ion 188.

6/7

LstofDua&erousGooé byRal(2009Edition): lumber: 9101J Name of Proñuc{: £i{hium batteries

International Regulations:

Directive 2006/66/EC and 2013/56/EU:

The label, disposal and recyc1ing of the batt cry shall meet the requi renent s of FU Di rec t ive 2006/66/EC and 2013/56/Efl.

ICA0 TI :

1. km ess be exempt ed accordi ng to I CA0 T1, the 1i thi un i on ce11/bat ter i es I IN 3480, PI 965 and 1i t)a i uili liiet a1 ce11/bat ter res I bX 3090, PI 568) are forbi dden for carr rage on pas senger ui rcra ft.
2. tin less be approved accord i ng I o ICAO T I , Li t hi uri i on ce I1s/bat ter i es £1h 3480, P1. 963 ) mus t be of fet-er1 f or transport at a state of charge (SoC) not cxc eefl ing 30% of the i r rated des i gn capa c i ly.
3. A shipper i s not pernit ted Io offer for transport core than one (1) package prepared cl C COI“C11 Ug 10 Seat ion I I of PI 965 and PI 968 i n any s i ng1e cons i gnnent. Not more t han one (1) package prepared i n ar rordance z i th Sect ion 1 I of PI 965 and PI 965 na ' lie placed i nt o an overpack.
4. Packages prepared accordl lig to Sect ion I I of 1°1. 96.5 aiirl PI 968 must be of fered Io the opcrfit Or separat e I y Iron ot her cargo and Inus t not be 1oaded in to a un i t load dev i ce (OLD) bet ore tie i ng offered to the opera t or .

#### SECTION16 OTHER INFORMATION

**Preparation** Date:

2022—01—21

**Preparation Oepartaent:**

Shanghai Research I n.st i tute of Chem i cv1 Indus t ry Te st ing Co. , L tel. Te l (tax) : “86-21—528T .5J77/ 1176fi fi5

Rev1sion:

0

**Abbreviations and âcronyais:**

CAS : Cheni cal Abst rac t s Serv i ce EC: European Comm i ssion ACG IH: Aner i can Conference of Governmental Indus tri a1 Hygi eni sts PC-USA: Perni ss i b le cone ent t a t i on—t irre e i ghted average ’I L\'—TBA: T true zei ghte‹l average threshol d I ini t G2B: Poss i b I y carer nogent c t o humans PC-STEL: Perni ss i b1e coneentrat ion—short teriii exposure I i ini t Sens i t i zat i on: The subst.an ce may have all er geni c ef fec t s ADR: European A greeiiient concerni ng the Int ernat ional Carn age of Dangerous Goods by Road R ID : Regu 1at ions coneerni ng the

Int ernat iona 1 Can age of Dangerous Goods by Rat 1 I fl0 IIIDG C0flE: Internat ional far i t i inc 0i’gani zat i on I n ternat ional dari t iInc Code for Dangerous Goods I ATA DGR: I nt ernat ional Ai r Transport Assoc i at ion Dangerous Goods Regu1at ions EU: European Uni on 1CA0 TI : Int ernat ional Cry i 1 lvi at i on Organ i zat i on Teehn i cal Instruct ions for the Safe Transport of Dangerous Goods by Ai r PI : Packagi rig ins t ruc t i oil

Other **Information:**

Thi s ODS i s coirp i I ed based on the i nforzat ion such as ingred i ents prov i dcd by the appl i cant and our current known edge. Thi s SDS shall be used onl y as a gui de. The users of thi s $DS must make i ndep endent judgment s on t he correctness and coup1et enes s and then deer de i ts sui I ab i1 i t y accord i ng t o the act ua1 s i I uat i on. The users should t ake the re 1evant 1egal respons i b i li t i es for the consequences of use.



