

SHENZHEN VISION TECHNOLOGY CO.,LTD
CENTER POWER INDUSTRIAL PARK,TONGFU INDUSTRIAL DISTRICT DAPENG TOWN SHENZHEN
CHINA

SGS Job No. : CP16-005141 - SZ
Sample Name : Steel shell battery
Manufacturer : SHENZHEN VISION TECHNOLOGY CO.,LTD
Country of Origin : CHINA SHENZHEN
Country of Destination : global
End Uses : stored energy
Composition/Ingredient of sample (as per client submission) : See section 3 Composition/information on ingredients on the SDS report
Job Receiving Date : 26 Jan 2016
Last Information Date : 29 Jan 2016
SDS Preparation Period : 26 Jan 2016 – 01 Feb 2016

Service Requested : Safety Data Sheet (SDS) for the sample with submitted composition.

Summary : As per request, the contents and formats of the SDS are prepared in accordance with European Commission Regulation (EC) No 1907/2006, Regulation (EC) No 1272/2008 and Regulation (EU) No 2015/830, and is provided per attached.

Remark:

The SDS is prepared based on the information provided by client.

* This sample is likely to be classified as article with substances not intended to be released and is out of scope of a SDS as set out in Regulation (EC) No 1907/2006. This SDS is generated for client's reference only.

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



Oscar Wang
Approved Signatory



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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone:(86-755) 8307 1443, or email: CN.Doccheck@sgs.com

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Safety Data Sheet

1907/2006/EC, 1272/2008/EC

Printing date 01.02.2016

Revision: 01.02.2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** Steel shell battery
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the mixture:** stored energy
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer / Supplier:** SHENZHEN VISION TECHNOLOGY CO.,LTD
- **Full address:**
CENTER POWER INDUSTRIAL PARK,TONGFU INDUSTRIAL DISTRICT DAPENG TOWN SHENZHEN CHINA
- **Phone number:** +86-13928857890
- **Email:** yangsong9354@163.com
- **Only Representative / other EU contact point:** Not available
- **Further information obtainable from:** SHENZHEN VISION TECHNOLOGY CO.,LTD
- **1.4 Emergency telephone number:**
UNITED KINGDOM
National Poisons Information Service
Tel: +44 (0) 844 892 0111
+86-13928857890 Yangsong
- **1.5 Reference Number:** CP16-005141 - SZ, CANEC1601690001
- **1.6 Remark:**
* This sample is likely to be classified as article with substances not intended to be released and is out of scope of a SDS as set out in Regulation (EC) No 1907/2006. This SDS is generated for client's reference only.

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of Regulation 1272/2008/EC.
- **Classification system:**
The classification is according to the latest edition of EU Regulation 1272/2008/EC, and extended by company and literature data.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05



GHS07

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Trade name: Steel shell battery

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- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
lithium hexafluorophosphate(1-)
- **Hazard statements**
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards:**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:**
Mixture of the substances listed below with nonhazardous additions.
For the wording of listed hazard statements refer to section 16.

- **Composition:**

CAS: 15365-14-7	<i>lithium iron phosphate</i>	33,0%
CAS: 7782-42-5 EINECS: 231-955-3	<i>Graphite substance with a Community workplace exposure limit</i>	22,0%
CAS: 7429-90-5 EINECS: 231-072-3 Index number: 013-002-00-1	<i>aluminium substance with a Community workplace exposure limit</i>	15,0%
CAS: 21324-40-3 EINECS: 244-334-7	<i>lithium hexafluorophosphate(1-)</i>  <i>Acute Tox. 3, H311;  <i>Skin Corr. 1B, H314;  <i>Acute Tox. 4, H302</i></i></i>	15,0%
CAS: 7440-50-8 EINECS: 231-159-6	<i>copper</i>	10,0%
CAS: 24937-79-9	<i>Poly(vinylidene fluoride)</i>	5,0%

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General description:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** *In case of unconsciousness place patient stably in side position for transportation.*
- **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
- **After swallowing:** *Drink plenty of water and provide fresh air. Call for a doctor immediately.*
- **4.2 Most important symptoms and effects, both acute and delayed:**
No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture:**
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures:**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling:**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
For the general occupational hygienic measures refer to Section 8.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s):** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**

7782-42-5 Graphite (22,0%)

AGW (Germany)

Long-term value: 1,25* 10** mg/m³
2(II);*alveolengängig**einatembar; AGS, DFG

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VME (France)	Long-term value: 2 mg/m ³ pour la fraction alvéolaire
7429-90-5 aluminium (15,0%)	
MAK (Germany)	Long-term value: 1,5A 4E mg/m ³ vgl.Abschn.V f)+g) u. XII, *alveoleng., **einatembar
VME (France)	Long-term value: 5* 10** mg/m ³ *pulvérulent **métal
21324-40-3 lithium hexafluorophosphate(I-) (15,0%)	
AGW (Germany)	Long-term value: 0,2 E mg/m ³ I(I);Y, 10, als Li
7440-50-8 copper (10,0%)	
WEL (Great Britain)	Short-term value: 2** mg/m ³ Long-term value: 0,2* 1** mg/m ³ *fume **dusts and mists (as Cu)
MAK (Germany)	Long-term value: 0,01 A mg/m ³ als Cu
VME (France)	Short-term value: 2** mg/m ³ Long-term value: 0,2* 1** mg/m ³ *fumées **poussières, en Cu

- **DNELs:** Not available

- **PNECs:** Not available

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

Based on the composition shown in Section 3, the following measures are suggested for occupational safety measure.

- **Appropriate engineering controls:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

See Section 7 for information about design of technical facilities.

- **Personal protective equipment**

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material:**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**

Tightly sealed goggles

· **Environmental exposure controls:**

Control measures must be made in accordance with Community environmental protection legislation.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **Appearance**

Form:	Solid
Colour:	Lt-blue
Odour:	Odourless
Odour threshold:	Not available

· **pH-value:** Not available· **Change in condition**

Melting point/Melting range:	Not available
Boiling point/Boiling range:	Not available
Freezing point:	Not available

· **Flash point:** Not available· **Flammability (solid, gaseous):** Not available· **Auto-Ignition temperature:** Not available· **Decomposition temperature:** Not available· **Self-igniting:** Product is not selfigniting.· **Explosive properties:** Risk of explosion by shock, friction, fire or other sources of ignition.· **Explosion limits**

Lower:	Not available
Upper:	Not available

· **Oxidizing properties:** Not available· **Vapour pressure:** Not available· **Density:** Not available· **Relative density:** Not available· **Vapour density:** Not available· **Evaporation rate:** Not available· **Solubility in / Miscibility with water:** Not available· **Partition coefficient (n-octanol/water):** Not available.· **Viscosity**

Dynamic:	Not available.
Kinematic:	Not available

· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity:** Data not available

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- **10.2 Chemical stability:** *Data not available*
- **10.3 Possibility of hazardous reactions:** *No dangerous reactions known.*
- **10.4 Conditions to avoid:** *No further relevant information available.*
- **10.5 Incompatible materials:** *No further relevant information available.*
- **10.6 Hazardous decomposition products:** *No dangerous decomposition products known.*

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful in contact with skin.
- **LD/LC50 values relevant for classification:** *Not available*
- **Skin corrosion/irritation:**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation:**
Causes serious eye damage.
- **Respiratory or skin sensitization:** *Based on available data, the classification criteria are not met.*
- **Germ cell mutagenicity** *Based on available data, the classification criteria are not met.*
- **Carcinogenicity** *Based on available data, the classification criteria are not met.*
- **Reproductive toxicity** *Based on available data, the classification criteria are not met.*
- **STOT-single exposure** *Based on available data, the classification criteria are not met.*
- **STOT-repeated exposure** *Based on available data, the classification criteria are not met.*
- **Aspiration hazard** *Based on available data, the classification criteria are not met.*

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** *No further relevant information available.*
- **12.2 Persistence and degradability:** *No further relevant information available.*
- **12.3 Bioaccumulative potential:** *No further relevant information available.*
- **12.4 Mobility in soil:** *No further relevant information available.*
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*
- **12.6 Other adverse effects** *No further relevant information available.*
- **12.7 Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (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.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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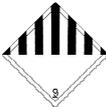
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- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN-Number · ADR,RID,ADN, IMDG, IATA 	UN3480	
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR/RID/ADN · IMDG · IATA 	3480 LITHIUM ION BATTERIES LITHIUM ION BATTERIES Lithium ion batteries	
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR,RID,ADN, IMDG, IATA 	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	9 Miscellaneous dangerous substances and articles. 9
<ul style="list-style-type: none"> · 14.4 Packing group · ADR,RID,ADN, IMDG, IATA 	Not applicable	
<ul style="list-style-type: none"> · 14.5 Environmental hazards · Marine pollutant: 	No	
<ul style="list-style-type: none"> · 14.6 Special precautions for user: · Danger code (Kemler): · EMS Number: 	Warning: Miscellaneous dangerous substances and articles. - F-A,S-I	
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: 	Not applicable.	
<ul style="list-style-type: none"> · 14.8 Transport/Additional information: 	<hr style="border-top: 1px dashed black;"/> <ul style="list-style-type: none"> · ADR/RID/ADN · Limited quantities (LQ): · Excepted quantities (EQ) · Transport category: · Tunnel restriction code: · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	0 Code: E0 Not permitted as Excepted Quantity 2 E 0 Code: E0 Not permitted as Excepted Quantity
<ul style="list-style-type: none"> · UN "Model Regulation": 	UN 3480 LITHIUM ION BATTERIES, 9	

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **MAK(German Maximum Workplace Concentration)**

None of the ingredients is listed.

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- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** Not applicable
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** Not applicable
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** Not applicable
- **National regulations:**
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Other regulations, limitations and prohibitive regulations**

· SVHC Candidate List of REACH Regulation Annex XIV Authorisation (17/12/2015)

None of the ingredients is listed

· REACH Regulation Annex XVII Restriction (13/1/2016) See Section 16 for information about restriction of use.
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None of the ingredients is listed

· REACH Regulation Annex XIV Authorisation List (14/8/2014)
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None of the ingredients is listed

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

- **Relevant hazard statements**

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, 1272/2008 and Regulation (EU) No 2015/830.

DISCLAIMER OF LIABILITY

The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reason, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Remark:

* This sample is likely to be classified as article with substances not intended to be released and is out of scope of a SDS as set out in Regulation (EC) No 1907/2006. This SDS is generated for client's reference only.

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity, Hazard Category 4

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

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Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

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EU