

## Changzhou Globe Co.,Ltd

### Safety data sheet

#### Section 1: Identification

##### 1.1 product identifier

Name of the substance: **82V 3Ah lithium battery**  
Model: **G82V220G**  
Identification number : **CAS number**

1.2 Recommended use of the chemical : **Lithium ion**  
restrictions on use: **not known**

##### 1.3 Details of the supplier of the safety data sheet

Producer/Supplier: **Changzhou Globe Co.,Ltd**  
Add: **N0.65-15 Xinggang Road Zhonglou Economic Development zone, Jiangsu ,China**  
Name of consultant: **Feng Feng**

1.4: Emergency Number: **0519-81286921**

#### Section 2: Hazards identification

##### 2.1 Classification of the chemical:

This product is out of scope of GHS system .

##### 2.2 Hazard summary:

|  |  |
|--|--|
| absorbed and inhaled by human body, spilt into eyes, and contacts skin.) | Inhalation: The steam of the electrolyte has an anesthesia action and stimulates a respiratory tract.<br>Skin contact: The steam of the electrolyte stimulates a skin. The electrolyte skin contact causes a sore and stimulation on the skin.<br>Eye contact: The steam of the electrolyte stimulates eyes. The electrolyte eye contact causes a sore and stimulation on the eye. Especially, substance that causes a strong inflammation of the eyes is contained. |
| Environment impact:  | Since a battery cell remains in the environment, do not throw out it into the environment  |
| Physical and chemical harms:   | Exposure of damaged battery  |
| Special harm:  | If the electrolyte contacts with water, it will generate detrimental hydrogen fluoride. Since the leaked electrolyte is inflammable liquid, do not bring close to fire.  |

##### 2.3 label

Signal word: **None**  
Hazard Symbols: **None**  
Hazard statements: **None**  
Precautionary statements: **Prevention**

#### Section 3: Composition/ information on ingredients

### 3.1 Substances

| Material Name                      | Chemical Name                               | CAS No.    | Wt%   |
|------------------------------------|---|------------|-------|
| FR4                                | Glass fabric 玻璃纤维                           | 65997-17-3 | 45    |
|                                    | Epoxy Resin 环氧树脂                            | 26265-08-7 | 28    |
|                                    | Copper Foin 铜箔                              | 7440-50-8  | 17    |
| Green paste (绿漆)                   | O-Cresol novolac epoxy (甲醛与环氧氯丙烷和邻甲基苯酚的聚合物) | 29690-82-2 | 56    |
|                                    | Barium sulfate (硫酸钡)                        | 7727-43-7  | 25    |
|                                    | Acrylic ester(聚二季戊四醇六丙烯酸酯)                  | 29570-58-9 | 19    |
| White Ink (白色油墨)                   | Epoxy Acrylate (环氧丙烯酸酯)                     | N/A        | 42    |
|                                    | Pigment (酞菁绿)                               | 1328-53-6  | 22    |
|                                    | Z-Ethgl-4-methgeimidazole (2-乙基-4-甲基咪唑)     | 931-36-2   | 18    |
|                                    | Filler (滑石粉)                                | 14807-96-6 | 18    |
| Fillers (填充物)                      | Fillers (滑石粉)                               | 14807-96-6 | 60    |
| Silicone modified polymer (硅树脂聚合物) | Silicone modified polymer                   | N/A        | 30    |
| Paraffin (石蜡)                      | Paraffin                                    | N/A        | 5     |
| Carbon black (炭黑)                  | Carbon black                                | 1333-86-4  | 5     |
| Solder (焊料)                        | Tin (锡)                                     | 7440-31-7  | 89    |
|                                    | Silver (银)                                  | 7440-22-4  | 5     |
|                                    | Copper (铜)                                  | 7440-50-8  | 1     |
|                                    | Resin (松香)                                  | 65997-05-9 | 5     |
| Plating (电镀)                       | Sn (锡) 粉状                                   | 7440-31-7  | 99.5  |
|                                    | others                                      | N/A        | 0.5   |
| Lead Eire-Dumet (导线)               | Ni (镍)                                      | 7440-02-0  | 42.15 |
|                                    | Fe  | 7439-89-6  | 57.85 |
|                                    | Cu  | 7440-50-8  | 100   |
| Dice                               | Si (硅)                                      | 7440-21-3  | 70.9  |
|                                    | Al (铝)                                      | 7429-90-5  | 0.1   |
|                                    | Ag  | 7440-22-4  | 28.6  |
|                                    | Ni  | 7440-02-0  | 0.4   |

|   |                                    |            |       |
|---|------------------------------------|------------|-------|
| Ink (油墨)  | C                                  | 7440-44-0  | 100   |
| BaTiO3 (钛酸钡)                                      | BaTiO3                             | 12047-27-7 | 69    |
| Nickel (镍)  | Nickel                             | 7440-02-0  | 2.5~7 |
| Copper (铜)  | Copper                             | 7440-50-8  | 21    |
| Tin (锡)   | Tin                                | 7440-31-5  | 0.2~3 |
| MAXBOND 1603HFR - 1 Glue<br>(黄胶)                  | CR Rubber                          | 9010-98-4  | 10~20 |
|   | Phenolic resins                    | 9003-35-4  | 10~20 |
|   | Flame Retardants                   | 1309-6404  | 5     |
|   | Solvents                           | 108-88-3   | 60    |
|   |                                    | 1975/9/2   |       |
|   |                                    | 78-93-3    |       |
|   |                                    | 110-82-7   |       |
| 110-54-3  |                                    |            |       |
| Additive  | N/A                                | 1          |       |
| Glue (9333 胶)                                     | Cadmium (镉)                        | 7440-43-9  | N.D.  |
|   | Calcium oxide(氧化镉)                 | 1306-19-0  | N.D.  |
|   | Dipentyl phthalate (邻苯二甲酸二戊脂)      | 131-18-0   | N.D.  |
| Carbon (碳)  | Carbon                             | N/A        | 50    |
| CP (化学纯)  | Sn (锡 粒状)                          | 7440-31-5  | 11    |
|   | Fe (碳化铁)                           | 12011-67-5 | 67    |
|   | Cu                                 | 7440-50-8  | 22    |
| ALUMINUM CALCIUM<br>SODIUM SILICATE (碳酸铝钙<br>钠)   | SODIUM SILICATE (二氧化硅)             | 14808-60-7 | 60    |
| TITANIUM DIOXIDE (二氧化<br>钛)                       | TITANIUM DIOXIDE                   | 13463-67-7 | 30    |
| DIBUTYLBIS(LAUROYLOXY)<br>STANNANE (二月桂酸二丁基<br>锡) | DIBUTYLBIS(LAUROYLOXY)STANNA<br>NE | 77-58-7    | 10    |
| Conductor (导体)                                    | Copper                             | 7440-50-8  | 99    |
|   | Tin                                | 7440-31-5  | 1     |
| Insulation (绝缘)                                   | Polyethylene (聚乙烯)                 | 9002-88-4  | 30    |

|                            |  |             |       |
|----------------------------|--|-------------|-------|
|                            | Magnesium Compound (镁聚合物)                                | N/A         | 55    |
|                            | Other  | N/A         | 15    |
| Tin (锡)                    | Sn   | 7440-31-5   | 99.4  |
|                            | Cu   | 7440-50-8   | 0.6   |
| Positive electrode         | Lithium transition metal oxidate(Li[M]m[O]n *2)          | 12190-79-3  | 20~60 |
|                            |  | 12057-17-9  |       |
|                            |  | 182442-95-1 |       |
| Positive electrode' s base | Aluminum   | 7429-90-5   | 1~10  |
| Negative electrode         | Carbon   | 7782-42-5   | 10~30 |
|                            |  | 7440-44-0   |       |
| Negative electrode' s base | Copper   | 7440-50-8   | 1~15  |
| Electrolyte                | Organic electrolyte principally involves ester carbonate | N/A         | 5~25  |
| Outer case                 | Iron   | 7439-89-6   | 1~30  |

## Section 4 : First-aid measures

### 4.1 Description of first aid measures

**Inhalation:** Make the victim blow his/her nose, gargle. Seek medical attention if necessary

**Skin contact:** Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately

**Eye contact:** Do not rub one's eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention immediately.

**Most important symptoms/effects, acute and delayed:** finger, Skin and eye burns

**Indication of immediate medical attention and special treatment needed:** ask doctor for help .

## Section 5: Fire-fighting measures

**5.1 Suitable (and unsuitable) extinguishing media:** Plenty of water. carbon dioxide gas. Nitrogen gas .chemical power fire extinguishing medium and fire foam .

**5.2 Specific hazards arising from the chemical:** it can be heated and unstable when press ,drop and other mechanical pressure .fire from the battery may produce irritating, corrosive and/or toxic gases.

**5.3 Special protective equipment and precautions for fire-fighters:**

**Handle protection :** wear gloves

**Eye protection:** Goggle and protective glasses

**Skin and body protection:** protective cloth

**Breath protection:** Wear self-contained breathing apparatus

## Section 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures: wear protective gloves and glasses, remove spilled material and do not inhale the gas as much as possible . do not touch as much as possible .

6.2 environmental precaution: Do not throw out into the environment especially water source and sewer.

6.3 Methods and materials for containment and cleaning up: The spilled solid are put into the container, the leaked place is wiped off with dry cloth .

## Section 7: Handling and Storage

### 7.1 Precautions for safe handling:

|                |  |
|----------------|--|
| 处置<br>Handling | Do not wet the battery with water, seawater, drink or acid; or expose to strong oxidizer.<br>• Do not damage or remove the external tube.<br>• Keep the battery away from heat and fire.<br>• Do not disassemble or reconstruct the battery; or solder the battery directly.<br>• Do not give a mechanical shock or deform.<br>• Do not use unauthorized charger or other charging method.<br>Terminate charging when the charging process doesn' t end within specified time. |
|----------------|--|

### 7.2 Conditions for safe storage, including any incompatibilities:

|               |  |
|---------------|--|
| 儲存<br>Storage | Do not store the battery with water, seawater, strong acid or strong oxidizer. Avoid direct sunlight, high temperature, and high humidity. |
|---------------|--|

## Section 8: Exposure Control / Personal Protection

### 8.1 Control parameters:

Occupational exposure limits: no exposure limit

Biological limit values: no exposure limit

exposure weather limit : forbidden to exposure in water .

8.2 Appropriate engineering controls: Leak from a damaged or opened battery: Provide adequate ventilation if fumes or vapours are generated

8.3 Individual protection measures, such as personal protective equipment

Hand protection: not necessary under normal condition

Eye protection : not necessary under normal condition

Body protection: not necessary under normal condition

Summarize; personal protective equipment should be used when the battery is damaged .

## SECTION 9: Physical and chemical properties

### Appearance:

|  |                 |                 |
|--|-----------------|-----------------|
| Physical state:                              | solid           |                 |
| Form:  | solid           |                 |
| Color:                                       | various         |                 |
| Odor:  | no odor         |                 |
| Odour threshold                              | Not applicable  |                 |
| pH   | Not applicable. |                 |
| Melting point/freezing point                 |                 | Not applicable. |
| Initial boiling point and boiling range      |                 | Not applicable. |
| Flash point                                  |                 | Not applicable. |
| Evaporation rate                             |                 | Not applicable. |
| Flammability (solid, gas)                    |                 | Not available.  |
| Upper/lower flammability or explosive limits |                 |                 |
| Flammability limit - lower(%)                |                 | Not available.  |
| Flammability limit - upper(%)                |                 | Not available.  |
| Vapour pressure                              |                 | Not applicable. |
| Vapour density                               |                 | Not applicable. |
| Relative density                             |                 | Not available.  |
| Solubility(ies)                              |                 | Insoluble.      |
| Partition coefficient(n-octanol/water)       |                 | Not applicable. |
| Auto-ignition temperature                    |                 | Not applicable. |
| Decomposition temperature                    |                 | Not applicable. |
| Viscosity                                    |                 | Not applicable. |

## Section 10: Stability and reactivity

|  |  |
|--|--|
| 10.1. Reactivity                         | Stable under normal use ,storage and transport                           |
| 10.2. Chemical stability                 | Stable under normal use ,storage and transport                           |
| 10.3. Possibility of hazardous reactions | no hazardous   |
| 10.4. Conditions to avoid                | Prevent static during processing, high humidity.                         |
| 10.5. Incompatible materials             | Conductive materials, water, seawater, strong oxidizers and strong acids |
| 10.6. Hazardous decomposition products   | Acrid or harmful gas is emitted during fire.                             |

## Section 11 Toxicological information

|  |  |
|--|--|
| Information on the likely routes of exposure:  | Expected to be a low hazard for usual industrial or commercial handling by trained personnel |
| Symptoms related to the physical, chemical and toxicological characteristics:              | Skin , eye burns   |
| Delayed and immediate effects and also chronic effects from short- and long-term exposure: | not applicable   |

Numerical measures of toxicity: LD50, oral - Rat 2,000mg/kg or more  
Irritating nature: Irritative to skin and eye

## Section 12 Ecological information

Ecotoxicity : no impact under normal use  
Persistence and degradability : no data available  
Bioaccumulative potential : no data available  
Mobility in soil : no data available

## Section 13: Disposal considerations

Residual waste: Dispose in accordance with applicable federal, state, and local regulations  
Disposal methods/information: Do not dispose in fire. Dispose waste and residues in accordance with applicable federal, state, and local regulations.

## Section 14: Transport information

UN number: UN3481  
UN proper shipping name: LITHIUM ION BATTERIES  
Transport rules: International Maritime Dangerous Goods Code  
Transport hazard class(es): DG9  
Packing group, : PI 966  
Environmental hazards: No  
Special precautions: No

## Section 15: Regulatory information

Safety: UL 2054

## Section 16: Other information, including date of preparation or last revision

Version contained : 1  
Training information: follow instruction when handling