OUTAO

Report No.: OT20240322Pr/165

MATERIAL SAFETY DATA SHEET

Product Name : Power supply circuit board assemblies

Applicant : Shanghai Hangjia Electronics Technology Co., Ltd.

Address : 8B Building, No.99 Shenmei Road, Pudong Shanghai, P.R.China

Signed by Shanghai OUTAO Testing Technology Service Co., Ltd

Written by : **Preeti.Deng**

Date: Mar. 22nd, 2024

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MATERIAL SAFETY DATA SHEET

Section 1 – Chemical Product and Company Identification

Product name	Power supply circuit board assemblies
Model	ST406M000
Applicant	Shanghai Hangjia Electronics Technology Co., Ltd.
Post Code	201318
Address	8B Building, No.99 Shenmei Road, Pudong Shanghai, P.R.China
Manufacturer	Shanghai Hangjia Electronics Technology Co., Ltd.
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Information in case of emergency	
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Section 2 – Hazards Identification

2.1 Classification of the substance or mixture

Classification acc. to Regulation (EC) No 1272/2008/EC (CLP/GHS)

Product definition: Mixture

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label Elements

Symbol(s)

Acute Toxic | Health Hazard | Irritant | Flammable | Compressed | Corrosive | Environmental Hazard

Signal Words	**DANGER**	
Hazard statement	**Cobalt lithium dioxide**	H317 (29.89%): May cause an allergic skin reaction [Warning Sensitization, Skin] H350 (25.29%): May cause cancer [Danger Carcinogenicity] H360 (13.79%): May damage fertility or the unborn child [Danger Reproductive toxicity] H360F (50%): May damage fertility [Danger Reproductive toxicity] H400 (50%): Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410 (50%): Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard]
	Graphite	H315 (100%): Causes skin irritation [Warning Skin corrosion/irritation] H319 (100%): Causes serious eye irritation [Warning Serious eye damage/eye irritation] H335 (100%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]
	Lithium Hexafluorophosphate	H301 (81.25%): Toxic if swallowed [Danger Acute toxicity, oral] H302 (18.75%): Harmful if swallowed [Warning Acute toxicity, oral] H311 (15%): Toxic in contact with skin [Danger Acute toxicity, dermal] H314 (100%): Causes severe skin burns and eye damage [Danger Skin corrosion/irritation] H318 (72.19%): Causes serious eye damage [Danger Serious eye damage/eye irritation] H372 (100%): Causes damage to organs through prolonged or repeated exposure [Danger Specific target organ toxicity, repeated exposure]
	Copper	H411: Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment, long-term hazard]
	Aluminum	H228 (66.26%): Flammable solid [Danger Flammable

		solids] H250 (37.1%): Catches fire spontaneously if exposed to air [Danger Pyrophoric liquids; Pyrophoric solids] H261 (99.02%): In contact with water releases flammable gas [Danger Substances and mixtures which in contact with water, emit flammable gases]
	Dimethyl carbonate (DMC)	H225 (100%): Highly Flammable liquid and vapor [Danger Flammable liquids]
	Diethyl carbonate (DEC)	H226 (100%): Flammable liquid and vapor [Warning Flammable liquids] H315 (13.35%): Causes skin irritation [Warning Skin corrosion/irritation] H319 (13.82%): Causes serious eye irritation [Warning Serious eye damage/eye irritation] H335 (13.58%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]
	Ethyl methyl carbonate (EMC)	H225 (39.34%): Highly Flammable liquid and vapor [Danger Flammable liquids] H226 (60.66%): Flammable liquid and vapor [Warning Flammable liquids] H315 (56.56%): Causes skin irritation [Warning Skin corrosion/irritation] H319 (57.38%): Causes serious eye irritation [Warning Serious eye damage/eye irritation] H335 (35.25%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]
	Polyvinylidene Fluoride (PVDF)	H220 (99.39%): Extremely flammable gas [Danger Flammable gases] H230 (26.44%): May react explosively even in the absence of air [Danger Flammable gases] H280 (100%): Contains gas under pressure; may explode if heated [Warning Gases under pressure] H340 (12.16%): May cause genetic defects [Danger Germ cell mutagenicity] H350 (12.16%): May cause cancer [Danger Carcinogenicity]
GHS Precautionary Statement Codes	P203, P261, P272, P273, P280, P302+P352, P318, P321, P333+P317, P362+P364, P391, P405, and P501 P203, P261, P271, P280, P304+P340, P318, P319, P403+P233, P405, and P501; P203, P210, P222, P230, P280, P281, P318, P337, P377, P381, P403, P405, P410+P403, and P501; P210, P233, P240, P241, P242, P243, P261, P264, P264+P265, P271, P280, P302+P352, P303+P361+P353, P304+P340, P305+P351+P338, P319, P321, P332+P317, P337+P317, P362+P364, P370+P378, P403+P233, P403+P235, P405, and P501 P203, P210, P222, P280, P318, P337, P377, P381, P403, P405, P410+P403, and P501	

Precautionary measures	Isolate spill or leak area for at least 25 meters in all directions.
Incident response	Not applicable
Storage	Store in a cool, dry, well-ventilated place.Keep away from strong oxidants, strong bases, strong acids, Store water and halogen and combustible materials .
Waste disposal	Store separately;
2.3 Other hazards	Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product. Risk of fire or explosion. The rechargeable lithium-ion batteries described in this Product Safety Data Sheet are sealed units which are not hazardous when used according to the recommendations of the manufacturer. Under normal conditions of use, the electrode materials and liquid electrolyte they contain are not exposed to the outside, provided the battery integrity is maintained and seals remain intact. Risk of exposure only in case of abuse (mechanical, thermal, electrical) which leads to the activation of safety valves and/or the rupture of the battery container. Electrolyte leakage, electrode materials reaction with moisture/water or battery vent/explosion/fire may follow, depending upon the circumstances. In the event that this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns to skin and eyes.

Section 3 – Composition/Information on Ingredient

3.1 Mixture information

Ingredient name	CAS No.	EC Number	Weight %	REACH No.	Classification
Cobalt lithium dioxide	12190-79-3	235-362-0	37.5	01-2119974118-31-xxxx	No classification
Graphite	7782-42-5	231-153-3	19.0	01-2119486977-12-xxxx	No classification
Polyvinylidene Fluoride (PVDF)	75-38-7	200-867-7	17.2	01-2119474211-48-xxxx	No classification
Copper	7440-50-8	231-159-6	10.4	01-2119480154-42-xxxx	No classification
Aluminum	7429-90-5	231-072-3	5.0	01-2119529243-45-xxxx	No classification
Lithium Hexafluorophosphate	21324-40-3	244-334-7	≤2.0	01-2119383485-29-xxxx	No classification
Dimethyl carbonate (DMC)	616-38-6	210-478-4	≤2.0	01-2119548399-23-xxxx	No classification
Diethyl carbonate (DEC)	105-58-8	203-311-1	≤2.0	01-2119943044-45-xxxx	No classification
Ethyl methyl carbonate	623-53-0	433-480-9	≤2.0	01-	No classification

(EMC)				0000017964-59-xxxx	
Polyethylene	9002-88-4	200-815-3	≤2.0	Not available	No classification

3.2 Substance information
Not applicable

Section 4 – First Aid Measures

4.1 Description of first aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing.Get medical advice/attention if you feel unwell.

Skin contact Remove contaminated clothes. Rinse skin with water and soap. If cause the serious skin-corrosive ,take the medical attention.

Eye contact Rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take for medical attention.

Ingestion Rinse mouth. Give one or two glasses of water to drink. Get medical attention.

Protection of first-aiders A rescuer should wear personal protective equipment, such as rubber gloves and airtight goggles.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Inhalation No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Eye contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Potential acute health effects

Inhalation No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Eye contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

4.3 Indication of the immediate medical attention and special treatment needed

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment

Section 5 – Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media
No data available

5.2 Special hazards arising from the substance or mixture

Lithium ion batteries contain flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (> 120 °C), when damaged or abused (e.g., mechanical damage or electrical overcharge). Burning cells can ignite other batteries in close proximity.

5.3 Hazardous thermal decomposition products

Carbon monoxide, carbon dioxide, lithium oxides, hydrogen fluoride.

5.4 Advice for fire-fighters

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so. When extinguishing fire, be sure to wear personal protective equipment.

Section 6 – Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

As an immediate precautionary measure, isolate spill or leak area for at least 25 meters in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas.
Ventilate closed areas before entering.
Wear adequate personal protective equipment as indicated in Section 8.

6.2 Environmental precautions

Prevent material from contaminating soil and from entering sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Stop the leak if safe to do so.
Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

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 information on disposal.

Section 7 – Handling and Storage

7.1 Precautions for safe handling

Do not open, dissemble, crush or burn battery. Do not expose cell to temperatures outside the range of -40°C to 60°C.

7.2 Conditions for safe storage, including any incompatibilities

Store battery in a dry location. To minimize any adverse effects on battery performance it is recommended that the batteries be kept at room temperature (35°C +/- 20°C). Elevated temperatures can result in shortened cell life. Keep out of reach of children.

7.3 Specific end use(s)

Not available.

Section 8 – Exposure Controls, Personal Protection

8.1 Control parameters

Occupational exposure limits values:	No data available

8.2 Exposure controls

Appropriate engineering controls:	Airborne exposures to hazardous substances are not expected when product is used for its intended purpose. Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fume and vapor.
Personal protective equipment	
Respiratory protection	Air-purifying full-face respirators are appropriate while handling the

	crushed batteries.
Hand protection	Impervious gloves while handling the crushed batteries.
Eye / Face protection	Safety glasses with side shields or goggles while handling the crushed batteries.
Skin and body protection:	Wear the protective gloves, protective clothing protective boots while handling the crushed batteries.
Environmental exposure controls:	Should not be released into the environment. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Section 9 – Physical and Chemical Properties

Physical appearance(20°C)	Solid
Odor	Odorless
Odor threshold	No data available
pH	No data available
Boiling point/range	It is solid, the boiling point is not technically feasible.
Melting point/range	No data available
Flash Point	It is solid, the flash point is not technically feasible.
Explosion Limits	No data available
Lower	No data available
Upper	No data available
Ignition Temperature	No data available
Vapour Pressure	No data available
Vapour Density	No data available
Density	No data available
Solubility	Insoluable in water

Section 10 – Stability and Reactivity

10.1 Reactivity

No special reactivity has been reported.

10.2 Chemical Stability

This product is stable under normal conditions.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Avoid exposing the battery to fire or temperatures above 80°C. Do not disassemble, crush, short or install with incorrect polarity. Avoid mechanical or electrical abuse.

10.5 Incompartible materials

Do not immerse in seawater or other high conductivity liquids, strong oxidizers.

10.6 Hazardous decomposition products

This material may release toxic fumes if burned or exposed to fire. Breaching of the battery enclosure may lead to generation of hazardous fumes which may include extremely hazardous HF (Hydrofluoric acid).

Section 11 – Toxicological Information

11.1 Toxicokinetic, metabolism and distribution

No data available

11.2 Information on toxicological effects

Acute Toxicity	No data available
Skin corrosion/irritation	Corrosive to the skin, eyes and mucous membranes.

Serious eye damage/irritation	Conjunctival and corneal chemical burns, and iritis.
Respiratory Irritation	Severity of upper gastrointestinal tract injury.
Respiratory or Skin Sensitisation	No data available
Aspiration Hazard	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity	No data available
Genetic Effects	No data available
Target Organ Effects	No data available
Reproductive toxicity	It is unlikely incur the reproductive toxicity.

Section 12 – Ecological Information

Ecotoxicity	No data available
Result of PBT and vPvB assessment	No data available
Persistence/ degradability	Not easy for degradability
Bioaccumulative potential (BCF)	No data available
Mobility in soil	No data available
Other adverse effects	No data available

Section 13 – Disposal Considerations

Material Disposal	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Section 14 – Transport Information

UN-Number	UN 3480 EU. Dangerous Goods List (ADR, Chap. 3.2, Table A), Directive 2008/68/EC)
DOT	
IMDG, IATA	
UN proper shipping name	
Transport hazard class(es)	 9 (No. 9)

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Land transport (as per ADR/RID classification)	
Inland waterways transport (ADN)	
Sea transport (IMDG)	
Air transport (IATA)	/
DOT (US)	
Packing group	NOT APPLICABLE
DOT, IMDG, IATA	
Transport category	
Environment hazards	/
EMS Number	/
Segregation groups	/
Special precautions for carriage	/
ADR Tank	/
Transport/additional information	/
Marine pollutant (DOT)	/

Section 15 – Regulatory Information

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

USA(TSCA)	All ingredients in the product are listed on the TSCA inventory
EC Classification for the substance/Preparation	This product is not classified as hazardous according to regulation (EC) No. 1272/2008.Keep out of the reach of children.
European/internation regulations	
European Labelling in accordance with EC Directives	
Hazard Symbols:	E,T,F,Xn,Xi,C,N
Risk Phrase	
R 20/22	Harmful by inhalation and if swallowed
R 52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Safety Phrases	
S 16	Keep away from sources of ignition-No smoking.
S 24/25	Avoid contact with skin and eyes
S 60	This material and/or Its container must be disposed of as hazardous waste
S 61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

15.2 Chemical Safety Assessment

The mixture has undergone any safety assessment.

For details regulations you should contact the appropriate agency in your country.

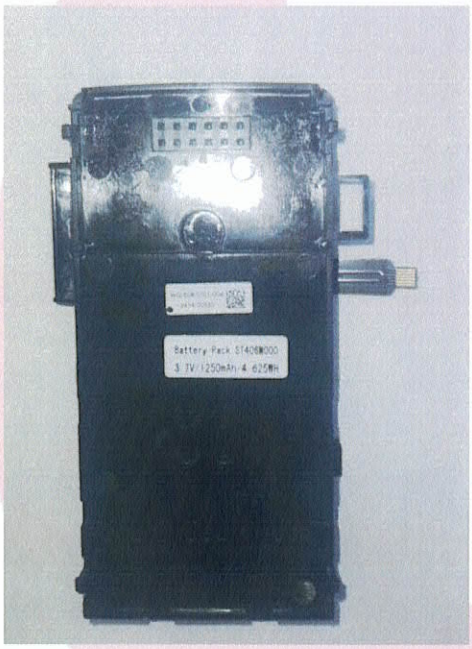
Section 16 – Additional Information

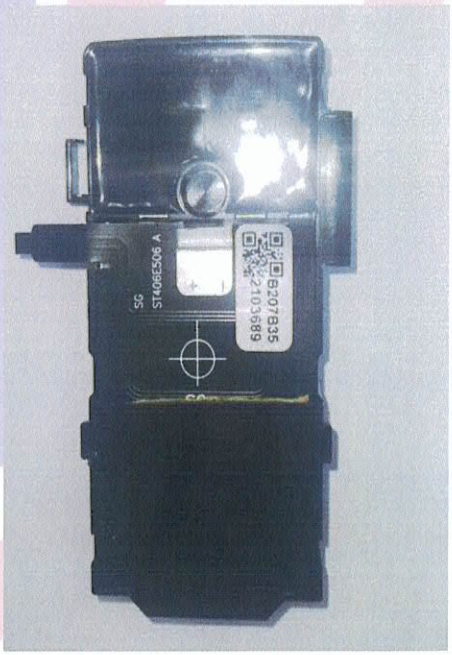
SDS Creation Date: Mar. 22nd, 2024

This SDS was prepared sincerely on the basis of the information we could obtained; however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. Products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

This SDS is applicable to following models

PRODUCT PHOTO





END OF REPORT