



Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200

Product name: Rechargeable Lithium ion Cell 5068A8 3.7V 18.5Wh
Version: 3.0/EN

Revision date: 04/01/2016
Issue date: 11/03/2016

1. Identification

(a) Product identifier

Product name Rechargeable Lithium ion Cell 5068A8 3.7V 18.5Wh

(b) Other means of identification

Product description Model: 5068A8
Nominal Voltage:3.7V
Typical Capacity:5000mAh
Watt-hour:18.5Wh

(c) Recommended use of the chemical and restrictions on use

Recommended use LITHIUM ION BATTERIES
Uses advised against No information available.

(d) Details of the supplier of the safety data sheet

Supplier Name Dongguan AISIPU Energy Technology CO.,LTD.
Supplier Address Aisipu Industrial Park, Jinying Road, Chenwu Village, Houjie Town, Dongguan City, Guangdong Province 523942, P.R. China
Supplier Email shikf@aisipu.com.cn
Supplier Phone Number +86-769-38941888

(e) Emergency telephone number

+86-769-38941888

2. Hazard(s) identification

(a) Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1

(b) GHS Label elements, including precautionary statements



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Emergency Overview

Signal word

Danger

Hazard Statements

Causes severe skin burns and eye damage

May cause respiratory irritation. May cause drowsiness or dizziness



This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.

Appearance Silver **Physical State** Solid **Odor** No information available

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Use only outdoors or in a well-ventilated area

Do not eat, drink or smoke when using this product

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

Specific treatment (see supplemental first aid instructions on this label)

Get medical advice/attention if you feel unwell

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician

Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse



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Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Call a POISON CENTER or doctor/physician if you feel unwell

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

(c) Hazards not otherwise classified (HNOC)

Not applicable

(d) Unknown Toxicity

33% of the mixture consists of ingredient(s) of unknown toxicity

(e) Other information

May be harmful if swallowed
May be harmful in contact with skin
Very toxic to aquatic life with long lasting effects

(f) Interactions with Other Chemicals

No information available.

3. Composition/information on ingredients

Chemical name	CAS No.	Weight-%	Trade Secret
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	15 - 40	*
Copper	7440-50-8	10 - 30	*
Graphite	7782-42-5	10 - 30	*
Ethylene carbonate	96-49-1	10 - 30	*
Phosphate(1-), hexafluoro-, lithium	21324-40-3	7 - 13	*
Aluminum foil	7429-90-5	3 - 7	*

*The exact percentage (concentration) of composition has been withheld as a trade secret



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4. First-aid measures

(a) First aid measures

(b) General Advice First aid is upon rupture of sealed battery.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek immediate medical attention/advice.

Inhalation: Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

Ingestion: Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

(c) Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning sensation.

(d) Indication of any immediate medical attention and special treatment needed

Notes to Physician Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

(a) Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

(b) Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

(c) Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to



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release of irritating gases and vapors.

(d) Hazardous Combustion Products

Carbon oxides.

(e) Hazardous Combustion Products

Sensitivity to No.
Mechanical Impact

Sensitivity to Static No.
Discharge

(f) Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

(a) Personal precautions, protective equipment and emergency procedures

Personal Precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

(b) Environmental Precautions

Environmental Precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

(c) Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

(a) Precautions for safe handling

Handling In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Use personal protection equipment. Avoid contact with skin, eyes or clothing.



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(b) Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible Products Acids. Bases. Oxidizing agent.

8. Exposure controls/personal protection

(a) Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	TWA: 0.02 mg/m ³	-	
Copper 7440-50-8	TWA: 0.2 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist	TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ dust and mist (vacated) TWA: 0.1 mg/m ³ Cu dust, fume, mist	IDLH: 100 mg/m ³ dust, fume and mist TWA: 1 mg/m ³ dust and mist TWA: 0.1 mg/m ³ fume
Graphite 7782-42-5	TWA: 2 mg/m ³ respirable fraction all forms except graphite fibers	TWA: 15 mg/m ³ total dust synthetic TWA: 5 mg/m ³ respirable fraction synthetic (vacated) TWA: 2.5 mg/m ³ respirable dust natural (vacated) TWA: 10 mg/m ³ total dust synthetic (vacated) TWA: 5 mg/m ³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m ³ TWA: 2.5 mg/m ³ respirable dust
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ F TWA: 2.5 mg/m ³ dust (vacated) TWA: 2.5 mg/m ³	
Aluminum foil 7429-90-5	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ Total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ Al Aluminum	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust



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ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962(11th Cir., 1992) See section 15 for national exposure control parameters

(b) Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

(c) Individual protection measures, such as personal protective equipment

Eye/Face Protection Face protection shield.
Skin and body Protection Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.
Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

9. Physical and chemical properties

(a) Physical and Chemical Properties

Physical State Solid
Appearance Milk-white
Odor No information available
Color No information available
Odor Threshold No information available

(b)Property	(c)Values	(d)Remarks Method
pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air	No data available	None known
Upper flammability limit	No data available	



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Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	Insoluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing Properties	No data available	

(e) Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. Stability and reactivity

(a) Reactivity

No data available.

(b) Chemical stability

Stable under recommended storage conditions.

(c) Possibility of hazardous reactions

None under normal processing.

(d) Hazardous Polymerization

Hazardous polymerization does not occur.

(e) Conditions to avoid

Exposure to air or moisture over prolonged periods.

(f) Incompatible materials

Acids. Bases. Oxidizing agent.

(g) Hazardous decomposition products

Carbon oxides.

11. Toxicological information

(a) Information on the likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
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In case of rupture:.

- Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.
- Eye Contact Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
- Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns
- Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite 7782-42-5	> 10000 mg/kg (Rat)	-	-

(b) Information on toxicological effects

Symptoms Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing.

(c) Delayed and immediate effects as well as chronic effects from short and long-term exposure

- Sensitization No information available.
- Mutagenic Effects No information available.
- Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.



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Chemical Name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	A3	Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive Toxicity No information available.

STOT-single exposure No information available.

STOT-repeated exposure Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

Chronic Toxicity Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse liver effects.

Target Organ Effects Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Central Vascular System (CVS).
Kidney. Liver. Lungs.

Aspiration Hazard No information available.

(d) Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

3,350.00 mg/kg

ATEmix (dermal)

2,010.00 mg/kg (ATE)

12. Ecological information

(a) Ecotoxicity



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Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper 7440-50-8	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96hLC50:=0.112mg/L (Poecilia reticulata) 96h LC50:=0.3mg/L (Cyprinus carpio) 96h LC50:= 0.8 mg/L (Cyprinus carpio) 96h LC50: =1.25 mg/L (Lepomis macrochirus) 96h LC50: =0.052 mg/L (Oncorhynchus mykiss) 96h LC50: =0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas)		48h EC50: = 0.03 mg/L

(b) Persistence and Degradability

No information available.

(c) Bioaccumulation

No information available.

(d) Other adverse effects

No information available.

13. Disposal considerations

Safe handling and methods of disposal

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Local regulations may be more stringent than regional or national requirements.

Product disposal recommendation: Observe local, state and federal laws and regulations.

Packaging disposal recommendation: Be aware discarded batteries may cause fire, tape the battery terminals to insulate them. Don't disassembly the battery. Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local, state and federal laws and regulations.

The potential effects on the environment and human health of the substances used in batteries and accumulators; the desirability of not disposing of waste batteries and accumulators as unsorted municipal waste and of participating in their separate collection so as to facilitate treatment and recycling.



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14. Transport information

According to PACKING INSTRUCTION 965 ~ 967 of IATA DGR 57th Edition for transportation, the special provision 188 of IMDG (inc Amdt 35-10). The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are integrate and tighten closed before transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles. Don't put the goods together with oxidizer and chief food chemicals. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. During transport, the vehicle should prevent exposure, rain and high temperature. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedroom and kitchen, and isolated from the engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area. Forbid to use wooden, cement for bulk transport.

- (a) UN number 3480&3481
- (b) UN Proper shipping name LITHIUM ION BATTERIES (including lithium ion polymer batteries) or;LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)
- (c) Transport hazard class(es) 9
- (d) Packing group (if applicable) II
- (e) Marine pollutant (Yes/No) No
- (f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code) No information available.
- (g) Special precautions No information available.

15. Regulatory information

OSHA hazard communication standard (29 CFR 1910.1200)

_____ Hazardous V Non-hazardous

16. Other information, including date of preparation or last revision

(a) Preparation and revision information

Prepared By Shenzhen Beihang Testing Co., Ltd.
Room B201, The Complex Building of Virtual University Park, No.2, Yuexing 3rd Road, South Zone of Technology Park, Yuehai Street, Nanshan District, Shenzhen, Guangdong, China.

Date of this revision 04/01/2016

(b) Abbreviations and acronyms

TSCA: Toxic Substances Control Act, The American chemical inventory.
DSL Domestic Substances List
EINECS: European Inventory of Existing Commercial chemical Substances



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ENCS Japanese Existing and New Chemical Substances
ECL: Existing Chemicals List, the Korean chemical inventory.
IECSC: Inventory of existing chemical substances in China.

(c) Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

--End of Safety Data Sheet--