



Safety Data Sheet (SDS)

Date Prepared/Revised: 6/28/18 Version no.: 01 Supersedes: (-)

1. Identification of the Mixture and of the Company

Product identifier: **Lithium Ion Battery**

Product name:

#9700 ENERPLEX POWER CENTER by SIERRA WAVE

Relevant identified uses of the substance: Use in portable electronics

Uses advised against: Do not dismantle, open or shred secondary cells or battery.

CAS No:	Not Applicable (mixture)
EC No:	Not Applicable (mixture)
Index No:	Not Applicable (mixture)
Manufacturer/Supplier:	Aervoe Industries Incorporated
Street address/P.O. Box:	1100 Mark Circle
Country ID/Postcode/Place:	Gardnerville, Nevada 89410
Telephone number:	1-775-782-0100
e-mail:	mailbox@aervoe.com
National contact:	Aervoe Industries Incorporated
For Product Information:	1-800-227-0196
Emergency telephone number:	1-800-424-9300 (CHEMTREC – 24 hrs)

2. Hazards identification

Classifications

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 SDS per the OSHA hazard communication standard unless ruptured.

Physical Hazards:	Flammable
Health Hazards:	STOT cat. 1
	Carc. cat. 2
	Skin corrosion/irritation 1B
	Serious eye damage/irritation 1
	Skin sensitization cat. 1

Environmental Hazards:	N/AV
------------------------	------

Labeling

Signal Word:	Danger
--------------	--------

Hazard Statements:	H242 – Heating may cause a fire.
	H311 – Toxic in contact with skin.



Safety Data Sheet (SDS)

Date Prepared/Revised: 6/28/18 Version no.: 01 Supersedes: (-)

H314 – Causes severe skin burns and eye damage.

H302 – Harmful if swallowed.

H322 – Harmful if inhaled.

Precautionary Statements:

P312: Call a Poison center or doctor/physician if you feel unwell.

P302+P350-IF ON SKIN: Gently wash with plenty of soap and water

P301+P330+P331-IF SWALLOWED: rise mouth. Do NOT induce vomiting

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P501 - Dispose of contents/container in accordance with local/regional/national/international regulation

Symbols/Pictograms:



3. Composition / Information on Ingredients

Composition

Chemical	CAS Number	Concentration %
Cobalt Oxide	1307-96-6	<30%
Manganese Dioxide	1313-13-9	<30%
Nickel Oxide	1313-99-1	<30%
Graphite	7782-42-5	<17%
Carbon Black	1333-86-4	<4%
Carbonate, Methyl Ethyl	623-53-0	<10%
Phosphate(1-), Hexafluoro-, Lithium	21324-40-3	<9%



Safety Data Sheet (SDS)

Date Prepared/Revised: 6/28/18 Version no.: 01 Supersedes: (-)

Copper	7440-50-8	<16%
Aluminum	7429-90-5	<11%

Other Product Information

Chemical Identity: Mixture

4.) First Aid Measures

General Advice:	If symptoms persist, always call a doctor.
Inhalation First Aid:	Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.
Skin Contact First Aid:	Remove contaminated clothes and rinse the skin with plenty of water. Get medical advice /attention if you feel unwell.
Eye Contact First Aid:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice / attention if you feel unwell.
Ingestion First Aid:	Have victim drink 60 to 240 mL (2-8 oz.) of water. and DO NOT induce vomiting. Get medical aid.
Most Important Symptoms/Effects:	Contact with internal components may cause allergic skin sensitization (rash) and irritate eyes, skin, nose, throat, respiratory system. Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).

5. Fire Fighting Measures

Suitable extinguishing media:	Carbon dioxide, dry chemical, water spray.
Unsuitable extinguishing media:	None known
Special hazards arising from the substance or mixture:	Under fire conditions, batteries may burst and release hazardous decomposition products when exposed to a fire situation. This could result in the release of flammable or corrosive materials.
Hazardous combustion products:	CO, CO ₂ , Metal oxides, Irritating fumes.
Precautions for fire-fighters:	Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equip with filtermask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.



Safety Data Sheet (SDS)

Date Prepared/Revised: 6/28/18 Version no.: 01 Supersedes: (-)

6. Accidental Release Measures

PERSONAL PRECAUTIONARY MEASURES:

If the Lithium-ion Rechargeable Cell material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area, dispose the case after the batteries cool and vapors dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors.

SPILL CLEAN-UP PROCEDURES:

- 1.) Evacuate unprotected personnel from the area.
- 2.) Remove sources of ignition if safe to do so.
- 3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
- 4.) Contain spill to prevent material from entering sewage or ground water systems.
- 5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

7. Handling and Storage

Handling:

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge. Do not short-circuit batteries Use recommended charging time and current.

Conditions for safe storage, including any incompatibilities:

If the Lithium-ion Rechargeable Cell is subject to storage for such a long term as more than 3 months, it is recommended to recharge the Lithium-ion Rechargeable Cell periodically.

Operating temperature: Charge: 0°C~45°C. Discharge: -10°C~50°C. And recommended at -10°C~45°C for 1 month storage, at -10~35°C for 3 months storage. The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more. The voltage for a long time storage shall be 3.7V~4.2V range. Do not storage Lithium-ion Rechargeable Cell haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. Keep out of reach of children.

8. Exposure Controls / Personal Protection

Appropriate engineering controls:

Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. Keep away from heat and open flame. Store in a cool, dry place.

Personal Protection:

Respiratory Protection: Not necessary under normal conditions. **Skin and body Protection:** Not necessary under normal conditions, Wear neoprene or nitrile rubber gloves if handling an open



Safety Data Sheet (SDS)

Date Prepared/Revised: 6/28/18 Version no.: 01 Supersedes: (-)

or leaking battery.

Hand protection: Wear neoprene or natural rubber material gloves if handling an open or leaking battery.

Eye Protection: Not necessary under normal conditions, wear safety glasses if handling an open or leaking battery.

Skin protection

No protective equipment is needed under normal use conditions.

Respiratory protection:

Use only in an adequately ventilated area.

***Values are based on the 2014 Guide to Occupational Exposure Values by ACGIH**

9. Information on Basic Physical and Chemical Properties

Appearance: Solid	Odor: Monotony
Odor Threshold: N/AV	pH: Not Applicable (solvent Base)
Melting Point: N/AV	Freezing Point: N/AV
Initial Boiling Point: N/AV	Boiling Point Range: N/AV
Flash Point: No flash point	Evaporation Rate: N/AV
Flammability Solid/Gas: Non-flammable	Upper LEL: N/AV Lower LEL: N/AV
Vapor Pressure: N/AV	Vapor Density: N/AV
Relative Density: N/AV	Solubility: N/AV
Partition Coefficient: n-octanol/ water: N/AV	Auto-ignition Temperature: 130°C
Decomposition Temperature: N/AV	Viscosity: N/AV
Explosive Properties: N/AV	Oxidizing Properties: N/AV

10. Stability & Reactivity

(a) Reactivity

Stable under recommended storage and handling conditions.

(b) Chemical stability

Stable under normal conditions.

(c) Possibility of hazardous reactions

When heated above 150°C the risk of rupture occurs. Due to special safety construction, rupture implies cont release of pressure without ignition.

(d) Conditions to avoid

Do not subject Lithium-ion Rechargeable Cell to mechanical shock. Keep away from open flames, high temperature.

(e) Incompatible materials

Strong oxidizer, strong acid.

(f) Hazardous decomposition products



Safety Data Sheet (SDS)

Date Prepared/Revised: 6/28/18 Version no.: 01 Supersedes: (-)

Under fire conditions, the electrode materials can form carcinogenic nickel and cobalt oxides.

11. Toxicological Information

(a) Information on the likely routes of exposure

Inhalation: Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.

Ingestion: Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

Skin contact: Contact with battery electrolyte may cause burns and skin irritation.

Eye contact: Contact with battery electrolyte may cause burns. Eye damage is possible.

Under normal conditions (during charge and discharge) release of ingredients does not occur.

If accidental release occurs see information in section 2, and 4. Swallowing of a battery can be harmful. Call the local Poison Control Centre for advice and follow-up.

(b) Information on toxicological characteristics

Acute toxicity: No data available.

Skin corrosion/irritation: The liquid in the battery irritates.

Serious eye damage/irritation: The liquid in the battery irritates.

Respiratory sensitization: The liquid in the battery may cause sensitization to some person.

skin sensitization: The liquid in the battery may cause sensitization to some person.

Carcinogenicity: Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).

Germ Cell Mutagenicity: No data available.

Reproductive Toxicity: No data available.

STOT-Single Exposure: No data available.

STOT-Repeated Exposure: No data available.

Aspiration Hazard: No data available.

12. Ecological Information

(a) Ecotoxicity

Water hazard class 1(Self-assessment): slightly hazardous for water.

(b) Persistence and Degradability

No information available.

(c) Bioaccumulative potential

No information available.

(d) Mobility in soil

No information available.

(e) Other adverse effects

No information available.

13. Disposal Considerations



Safety Data Sheet (SDS)

Date Prepared/Revised: 6/28/18 Version no.: 01 Supersedes: (-)

(a) 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 disassemble 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.

14. Transportation Information

US DOT

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN3091	Lithium batteries, contained in equipment	9	II	Not applicable	Reference 49 CFR 172.101

IMDG

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN3481	Lithium batteries, contained in equipment	9	II	Not Applicable	Reference IMDG code part 3

IATA:

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN3481	Lithium ion batteries contained in equipment	9	II	Non Regulated Material	Reference IATA Dangerous Goods Regulation

15. Regulatory Information

Workplace classification:

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.

SARA Title 3:

Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.



Safety Data Sheet (SDS)

Date Prepared/Revised: 6/28/18 Version no.: 01 Supersedes: (-)

TSCA status: All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the (M)SDS contains all of the information required by the CPR.

PROP 65 (CA): WARNING: This product may contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

This SDS has been completed in accordance with GHS Rev04 (2011): U.S OSHA, CMA, ANSI, Canadian WHMIS standards, and European Directives.

Date of Preparation/Revision: 6/28/18

Supersedes: (-)

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.