

MATERIAL SAFETY DATA SHEET (MSDS)
LITHIUM-ION BATTERY MOBILE POWER CENTER
SILICON LIGHTWORKS, LLC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Model Number: MPC-100
Product Description: Lithium-ion Battery Mobile Power Center
≤100 Watt Hours
Manufacturer: Silicon Lightworks, LLC
4100 N Powerline Road, Ste F2
Pompano Beach, FL 33073
Emergency Telephone Number: 954-960-6828

2. HAZARDS IDENTIFICATION

Classification according to GHS: Not a dangerous substance.

Primary Routes of Entry

Skin Contact: No
Skin Absorption: No
Eye Contact: No
Inhalation: No
Ingestion: No

Symptoms of Exposure

Skin Contact: No effect under routine handling and use.
Skin Absorption: No effect under routine handling and use.
Eye Contact: No effect under routine handling and use.
Inhalation: No effect under routine handling and use.
Reported as a Carcinogen: Not applicable

3. COMPOSITION INFORMATION

Hazardous Ingredients	%	CAS Number	EC#
Nickel Compound	0-25	1313-99-1	215-215-7
Manganese Dioxide	0-15	1313-13-9	215-202-6
Cobalt Compound	4-50	1307-96-6	215-154-6
Styrene-Butadiene-Rubber (SBR)	<1	9003-55-8	618-370-2
Polyvinylidene Fluoride (PVDF)	<5	24937-79-9	200-867-7
Aluminum	2-10	7429-90-5	231-072-3
Copper	2-10	7440-50-8	231-159-6
Carbon	10-30	7782-42-5	231-955-3
C ₃ H ₄ O ₃	10-20	96-49-1	202-510-0
LiPF ₆	<5	21324-40-3	623-53-0
Steel, Nickel and Inert Materials	Remainder	---	---

4. FIRST AID MEASURES

Inhalation:	Not a health hazard.
Eye Contact:	Not a health hazard.
Skin Contact:	Not a health hazard.
Ingestion:	If swallowed, obtain medical attention immediately

IF EXPOSURE TO THE INTERNAL MATERIALS OF THE LITHIUM-ION BATTERY INSIDE THE MOBILE POWER CENTER, DUE TO DAMAGE OF THE OUTER CASING OF THE COMPONENT LITHIUM-ION CELLS, THE FOLLOWING ACTIONS ARE RECOMMENDED:

Inhalation:	Leave area immediately and administer artificial respiration if breathing is difficult. Seek medical attention.
Eye Contact:	Rinse eyes with water for 15 minutes and seek medical attention.
Skin Contact:	Wash area thoroughly with soap & water and seek medical attention.
Ingestion:	Do not induce vomiting; seek medical attention.

5. FIRE FIGHTING MEASURES

General Hazard

Lithium-ion batteries contain flammable electrolyte that may vent, ignite, or explode when subjected to high temperature (>150°C/302°F), when damaged, or when abused (e.g. mechanical damage or electrical overcharging). The flammable electrolyte will burn if incinerated or exposed to fire. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

Extinguishing Media

Use extinguishing media suitable for local conditions, the surrounding environment, and the materials that are burning, such as dry power, CO₂.

Special Firefighting Equipment

If possible, remove the Mobile Power Center from fire fighting area. If heated above 150°C (302F), the lithium-ion battery inside the Mobile Power Center may vent, ignite, or explode.

6. ACCIDENTAL RELEASE MEASURES

On Land

Place material into suitable containers and call local fire/police department.

In Water

If possible, remove from water and call local fire/police department.

7. HANDLING & STORAGE

Handling

No special protective clothing required for handling individual Mobile Power Centers.

Storage

Store in a cool, dry, and well ventilated place. Keep away from heat and long exposures to sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Controls

Keep away from heat or open flame. Do not disassemble or crush. Store in a cool dry place.

Personal Protection

Respirator

Not required during normal operations. SCBA required in the event of a fire.

Eye/Face Protection

Not required beyond safety practices of employer.

Gloves

Not required for handling of Mobile Power Centers.

Foot Protection

Steel toed shoes recommended for large container handling.

9. PHYSICAL, CHEMICAL AND ELECTRICAL PROPERTIES

Appearance	Metallic Gray
Form	Rectangular Prism
Odor	Odorless
Product Voltage	12V
Cell Voltage	3.6-3.7V
Capacity	26800mAh
Watt Hours	≤100 Watt Hours

10. STABILITY AND REACTIVITY

Reactivity

None

Incompatibilities

None during normal operation. Avoid exposure to heat, open flame, oxidizing agents, acids and bases.

Hazardous Decomposition Products

None during normal operating conditions. If lithium-ion battery inside the Mobile Power Center is opened, hydrogen fluoride and carbon monoxide may be released.

Conditions to Avoid

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

11. TOXICOLOGICAL INFORMATION

This product does not elicit toxicological properties during routine handling and use. If the Mobile Power Center, or the lithium-ion battery contained inside the Mobile Power Center, is opened through misuse or damage, discard immediately. Internal components of both are irritants and sensitizers.

12. ECOLOGICAL INFORMATION

Some materials within the lithium-ion battery inside the Mobile Power Center are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

13. DISPOSAL CONSIDERATIONS

Dispose of according to all federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

The Mobile Power Center is considered to be a "Rechargeable Lithium-ion Battery" and meets the requirements of transportation by the U.S. Department of Transportation (DOT), the International Civil Aviation Administration (ICAO), and the International Maritime Dangerous Goods (IMDG) Code.

	IATA	IMDG
UN Number	UN3480 & UN3481	UN3480 & UN3481
UN Shipping Name	Lithium Ion Batteries and Lithium Ion Batteries Packed with Equipment	Lithium Ion Batteries and Lithium Ion Batteries Packed with Equipment
Transportation Hazard Class	9	9
Packing Group	II	II
Marine Pollutant	No	

A package containing Mobile Power Center(s) should comply with the requirements of Packing Instruction 965-Section II, 965-Section IB or 966-Section-II of IATA Dangerous Goods Regulations (DGR) 60th Edition, and the requirements of IMDG Code Special Provision 188, Amendment 39-18. More information concerning shipping, testing, marking and packaging may be obtained from Label Master at <http://www.labelmaster.com>.

The Mobile Power Center has been evaluated according to the UN Manual of Tests and Criteria, Part III, Sub-Section 38.3, 6th Revised Edition, and has passed the following safety tests:

Test No.	Safety Test Item	Result
T1	Altitude Simulation	Pass
T2	Thermal Test	Pass
T3	Vibration	Pass
T4	Shock	Pass
T5	External Short Circuit	Pass
T6	Impact/Crush	Pass
T7	Overcharge	Pass
T8	Forced Discharge	Pass

15. REGULATORY INFORMATION

This Material Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006. The following laws, regulations, rules and standards apply to the substances or mixtures of substances listed below:

Composition	CAS No.	IECSC	TSCA	DSL/NDSL	EINECS/ ELINCS/ NLP
Nickel Compound	1313-99-1	Listed	Listed	DSL	Listed
Manganese Dioxide	1313-13-9	Listed	Listed	DSL	Listed
Cobalt Compound	1307-96-6	Listed	Listed	DSL	Listed
Styrene-Butadiene-Rubber	9003-55-8	Listed	Listed	DSL	Listed
Polyvinylidene Fluoride (PVDF)	24937-79-9	Listed	Listed	DSL	Not Listed
Aluminum	7429-90-5	Listed	Listed	DSL	Listed
Copper	7440-50-8	Listed	Listed	DSL	Listed
Carbon	7782-42-5	Listed	Listed	DSL	Listed
C ₃ H ₄ O ₃	96-49-1	Listed	Listed	DSL	Listed
LiPF ₆	21324-40-3	Listed	Listed	NDSL	Listed

16. ADDITIONAL INFORMATION

The above information is based on data we believe to be correct as of 4/23/2020. This information is furnished upon the condition that the person receiving it shall make his or her own determination of the suitability of the material for his or her particular purpose.