



### 3. Hazards Identification

NFPA/HMIS Rating (0 = minimal, 1 = slight, 2 = moderate, 3 = serious, 4 = severe)

Propylene Carbonate: Health = 1 / Fire = 1 / Reactivity = 0

Ammonium Salt: Health = 1 / Fire = 1 / Reactivity = 0

#### General Safety considerations

1.Cells may rupture if overcharged, reverse charged, incinerated or heated above 150°C.

2.Do not crush, mutilate, nail penetrate or disassemble.

3.High case temperature may result from abuse of the cell.

#### Primary Routes of Entry

Skin Contact	:	No
Skin Adsorption	:	No
Eye Contact	:	No
Inhalation	:	No
Ingestion	:	No

#### Symptoms of Exposure

Skin Contact	:	No effect under routine handling and use
Skin Absorption	:	NA
Eye contact	:	No effect under routine handling and use
Inhalation	:	NA

#### Reported as Carcinogen

NA

### 4.First Aid Procedures

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 the outer casing of the cell is damaged, and exposure to internal materials within the cell occurs, the following actions are recommended.

Inhalation	:	Not a health hazard
Eye Contact	:	Rinse eyes with water for 15 minutes and seek medical attention.
Skin Contact	:	Wash area thoroughly with soap and water.
Ingestion	:	Drink milk/water and induce vomiting; seek medical attention.

### 5.Fire Fighting Measures

#### General Hazard

Internal organic material will burn if the cell is incinerated. Combustion products include, but are not limited to, carbon monoxide and carbon dioxide.

#### Extinguishing Media

Use fire extinguisher type A,B, C or D.

#### Special Firefighting Instructions

If possible, remove cell(s) from fire fighting area. If heated above 150°C, cell(s) may rupture/vent.

#### Firefighting Equipment

Use NIOSH/OSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

### 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.Precautions for Safe Handling and Storage**

Handling	:	No special protective clothing required for handling individual cells.
Storage	:	Store in a cool, dry place.

**8.Exposure Controls / Personal Protection****Engineering Controls**

Keep away from heat and open flame. 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 cells.
Foot protection	:	Steel-toed shoes recommended for large container handling.

**9.Physical and Chemical Properties**

State	:	Solid
Odor	:	NA
pH	:	NA
Vapor pressure	:	NA
Vapor density	:	NA
Boiling point	:	NA
Solubility in water	:	Insoluble
Specific gravity	:	~2.5

**10.Stability and Reactivity**

Reactivity	:	None
Incompatibilities	:	None during normal operation. Avoid exposure to heat, open flame, and corrosives.
Hazardous Decomposition Products	:	None during normal conditions
Conditions to Avoid	:	Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

**11.Toxicological Information**

This product is not toxic during routine handling and use.

Sensitization	:	NO
Teratogenicity	:	NO
Reproductive Toxicity	:	NO
Acute Toxicity	:	NO

**12.Ecological Information**

Under normal conditions, cells pose no risk to persons or the surrounding environment.

**13.Disposal Considerations**

OSHA hazard communication standard (29 CFR § 1910.1200)

**14.TRANSPORT INFORMATION**

UN Classification	:	UN3499, <0.3Wh, Non-Hazardous Goods.(Not subjected to US DOT or IATA regulations)
Invertebrates	:	---
Packaging	:	It can be packed in carton or plastic box, and it should not be damaged by strong machinery to avoid deformation of the capacitor.
Special precautions	:	Verify that containers are not broken or leaking. Do not collapse or drop container. Care must be taken during loading and unloading not to damage the container and to ensure that the collapse of the cargo pile is prevented. Avoid direct radiation.

**15.Regulatory Information**

OSHA hazard communication standard (29 CFR § 1910.1200)

Hazardous x Non-hazardous

**16.OTHER INFORMATION****16.1 Documentation Information**

File Name:	Supercapacitor Material Safety Data Sheet (MSDS)
File No:	MSDS-CDA-N04
Revision:	N04
Revision Date:	2023.08.20
Prepared Department:	Super Capacitor Division, R&D

**16.2 Abbreviations and acronyms:**

CAS# = Chemical Abstracts Service number
OSHA = European Agency for Safety and Health at work
ACGIH = American Conference of Government Industrial Hygienists

**17.About mention contents:**

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