

MATERIAL SAFETY DATA SHEET
Model [ICR18650-18/ICR18650-20/ICR18650-22](#)
Lithium Ion Rechargeable Battery
[Samsung SDI Corporation](#)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

[Samsung SDI ICR18650-18/ICR18650-20/ICR18650-22](#) Lithium-Ion Battery

MANUFACTURER

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2. COMPOSITION INFORMATION

HAZARDOUS INGREDIENTS	%	CAS NUMBER
Aluminum Foil	2-10	7429-90-5
Metal Oxide (proprietary)	20-50	
Polyvinylidene Fluoride (PVDF)	<5	24937-79-9
Copper Foil	2-10	7440-50-8
Carbon (proprietary)	10-30	7440-44-0
Electrolyte (proprietary)	10-20	
Stainless steel, Nickel and inert materials	Remainder	N/A

3. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY

[Skin contact, Skin absorption, Eye contact, Inhalation, and 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 CARCINOGEN

Not applicable

4. FIRST AID MEASURES

INHALATION, EYE CONTACT, and SKIN CONTACT : Not a health hazard.

INGESTION

If swallowed, obtain medical attention immediately.

If exposure to internal materials within cell due to damaged outer casing, the following actions are recommended.

INHALATION

Leave area immediately and seek medical attention.

EYE CONTACT

Rinse eyes with water for 15 minutes and seek medical attention.

SKIN CONTACT

Wash area thoroughly with soap and water and seek medical attention.

INGESTION

Drink milk/water and induce vomiting; seek medical attention.

5. FIRE FIGHTING MEASURES

GENERAL HAZARD

Cell is not flammable but internal organic material will burn if the cell is incinerated. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

EXTINGUISHING MEDIA

Use extinguishing media suitable for the materials that are burning.

SPECIAL FIREFIGHTING INSTRUCTIONS

If possible, remove cell(s) from fire fighting area. If heated above 125°C, cell(s) can explode/vent.

FIREFIGHTING EQUIPMENT

Use NIOSH/MSHA 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. 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	N/A
PH	N/A
Vapor pressure	N/A
Vapor density	N/A
Boiling point	N/A
Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

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 operating conditions. If cells are 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.

Sensitization: NO	Teratogenicity: NO	Reproductive toxicity: NO	Acute toxicity: NO
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If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

12. ecological information

Some materials within the cell are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

13. disposal considerations**CALIFORNIA REGULATED DEBRIS**

RCRA Waste Code: Nonregulated

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

14. Transport information

Samsung SDI Lithium Ion batteries are considered to be “dry cell” batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation(DOT), International Civil Aviation Administration(ICAO), International Air Transport Association(IATA).

15. regulatory information

OSHA hazard communication standard (29 CFR 1910.1200)

Hazardous

Non-hazardous