Grand-Pro
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Material Safety Dtat Sheet

Product Name: Lithium-Ion Battery
Model : 1INR19/66 3.7V 2.6Ah 9.62Wh

Approved By	Checkup
Zhang Shenjiang	Wang Yong
DATE: Jan 11,2023	DATE: Jan 11,2023

Material Safety Data Sheet

Revision:1.0

1.Chemical Product And Company Identification

Product Identification: Lithium-Ion Battery

Commercial product name: 1INR19/66.3.7V.2.6Ah.9.62wh

Nominal Voltage: 3.7V

Nominal capacity: 2600mAh

Wh rating: 9.438Wh

Manufacturer: ChangHong Grand-Pro Tech Co.,Ltd.

Address: Intersection of Shihu Ave.and Linjing 2nd Rd.SuXian District, Chenzhou, Hunan,China.

valid period: 31th Dec 2023

Tel: (86)735-2668188

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2. Composition Information

Ingredients	Approximate w/w	CAS NUMBER
Lithium Cobalt Oxide (LiCoO2)	30-33	12190-79-3
Carbon (Graphite)	15-20	7440-11-0
Linear and Cyclic Carbonic solvents	5-15	N/A
Electrolyte (LiPF6/EC/DMC/EMC)	1-3	21324-40-3 /96-49-1 /616-38-6 / 623-53-0
Aluminum	2-8	7429-90-5
Copper	5-10	7440-50-8
Hexafluoropropylene-Vinylidine-Fluoride	1-3	9011-17-0
PP/PE/PET	0.1-4	
Steel,nickel and inert polymer	0.5-4	N/A
Carbon black and others	0-3	N/A

3. Hazards Identification

Emergency Overview (including Signs and Symptoms, Route(s) of Entry, etc.)

Intact batteries present no specific hazards.

Acute Health Hazards (e.g., Inhalation, Eye Contact, Skin Contact, Ingestion, etc.):

Burning batteries: AVOID inhalation of toxic fumes. Burning batteries emit toxic fumes, which are irritating to the lungs.

Leaking batteries: AVOID exposure to leaking electrolyte, it can cause severe irritation and/or damage to the skin, mucous membrane or eyes.

Chronic Health Effects (e.g., Carcinogenicity, Teratology, Reproduction, Mutagenicity, etc.):

Cobalt: Suspected human carcinogenic agent.

Medical Conditions Generally Aggravated by Exposure: None.

4. First Aid Measures

Ingestion

If swallowed, obtain medical attention immediately.

Inhalation

If battery is burning, leave the area immediately. If exposed to fumes, seek medical attention promptly.

Eye Contact

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

Skin Cobtact

If battery electrolyte leaks on to the skin flush the affected area for at least 15 minutes with clean water. DO NOT attempt to neutralize. Seek medical attention promptly.

Ngestion

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

5. Fire Fighting Masures

Flammable Properties: N/A

Flashpoint: Method:

Autoignition Temperature:

Flammable Limits: N/A

Lower flammable limit: Upper flammable limit:

Hazardous Combustion Products: Burning batteries may emit acrid smoke irritating fumes, and toxic fumes of fluoride.

Extinguishing Media: Carbon dioxide (CO2) or dry chemical fire extinguisher, 10-B: C.

Fire Fighting Instructions:

Personnel: Fight the fire in a defensive mode, while exiting the area. When using a CO2 fire extinguisher, DO NOT re-enter the area until it has been thoroughly ventilated (i.e., purged) of the CO2 extinguishing agent.

Firefighters: Use a self-contained breathing apparatus (SCBA).

6. Accidental Release Masures

Small Spill: If batteries show signs of leaking, AVOID skin or eye contact with the material leaking from the battery. Use chemical resistant rubber gloves and non-flammable absorbent materials for clean-up.

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: Recharge batteries IAW methods specified in applicable technical manuals.

DO NOT:

Overcharge this battery.

Abuse, mutilate or short circuit the battery.

Storage: Gain approval for storage areas from the Installation Fire Department. Store batteries in a cool (i.e., 130F), dry and well ventilated area.

DO NOT:

Store batteries in direct sunlight or under hot conditions.

Smoke and keep batteries away from open flame or heat.

Store batteries in the same stacks with hazardous materials.

Stor batteries in office areas, or other areas where personnel congregate. Work/ Hygienic Practices: Thoroughly wash hands after cleaning-up a battery spill (i.e., leaking or venting batteries). NO eating, drinking or smoking in battery storage areas.

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 Propeties

Boiling Point @ 760 mm Hg (°C): NA

Vapor Pressure (mm Hg @ 25°C): NA

Vapor Density (Air = 1): NA

Density (grams/cc): NA

Percent Volatile by Volume (%): NA

Evaporation Rate (Butyl Acetate = 1): NA

Physical State: NA

Solubility in Water (% by Weight): NA

pH: NA

Appearance and Odor: geometric solid object

10. Stability And Reactivtiy

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

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	Teratogenicity	Reproductive toxicity	Acute toxicity
NO	NO	NO	NO

This product does not contain any kinds of the following substances and halogen-type flame retardants including Chlorine and Bromide type harmful flame retardants which are listed in Appendix of TCO documents and relevant international ECO requirements:

Polybromated Biphenyls (PBB)
Polybromated Biphenyl Ethers (PBBE)
Polybromated Biphenyl Oxides (PBBO)
Polybromated Diphenylethers (PBDE)
Polychlorinated Biphenyl (PCB)
Polychloronated Diphenylethers (PCDE)
Tetrabromphisphenol A (TBBPA)
Asbestos, Antimonytrioxide, Dioxine

None of the following substances will be exposed, leaked, or emitted during transportation,
storage or any operation and any temperature condition:

Chlorinated Fluorohydrocarbon (FCKW)
Acrylonitride
Styrol Phenol Benzol
Mercury of greater than 0.0001 wt% for alkaline battery
Mercury of greater than 0.0005 wt% for other battery
Lithium content of greater than 0.5g/battery cell Cadmium, lead, and other

harmful heavy metal
This product does not contain mercury and lithium-metal.
Mercury content:<
Lithium-Ion content: <
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 Information

Recommended methods for safe and environmentally preferred disposal :
Product(waste from residues)
Do not throw out a used battery cell. Recycle it through the recycling company.
Contaminated packaging
Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.
RCRA Waste Code: Nonregulated

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

14. Transportation Information

For lithium ion batteries, UN ID number is 3480 or Lithium Ion Batteries contained in equipment or Lithium Batteries packed with equipment, UN ID number 3481
UN Proper shipping name:Lithium ion batteries ,Trans port hazard ciass(es):9
Mode of transport: to air, sea, railway, highway-based.
In the case of transportation, confirm no leakage and no overspill from a container. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a cell. Please refer to Section 7-HANDLING AND STORAGE also. We regard to air transport, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions;
- The International Air Transport Association(IATA) Dangerous Goods Regulations(64td Edition 2023: complies with current IATA packing instruction of PI965- 967);
- The International Maritime Dangerous Goods(IMDG) Code;
- The US Hazardous Materials Regulation(HMR) pursuant to a final rule issued by RSPA
- The Office of Hazardous Materials Safety within the US Department of Transportation's Research and Special Programs Administration(RSPA), and The UN Recommendations on the Transport of Dangerous Goods Model

Regulations and the Manual of Tests and Criteria.

- The results of the UN Recommendation on the Transport of Dangerous Goods

Manual of Test and Criteria (38.3 Lithium battery)		Test Results	Remark
No.	Test Item		
T1	Altitude Simulation	Pass	
T2	Thermal Test	Pass	
T3	Vibration	Pass	
T4	Shock	Pass	
T5	External Short Circuit	Pass	
T6	Impact	Pass	
T7	Overcharge	Pass	For Pack Only
T8	Forced Discharge	Pass	For Pack Only

However, since it corresponds to IATA-DGR, this battery cell can be conveyed normally. Our batteries conform to conform to the international air transport association pi965-967 packing instruction.

15. Regulatory Information

OSHA hazard communication standard (29 CFR 1910.1200)

_____Hazardous _____ Non-hazardo

16. Other Information

The information above is believed to be accurate and represents the best infrmation currently available to us. However, Grand-Pro makes no warranty of merchantability or any other warranty,express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determinie the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein,it is offered solely for your information, consideration. This material safety data sheet provides guidelines for the safe handling and use of this product, it does not and cannot advise on all possible situations, therefore,your specific use of this product should be evaluated to determine if additional precautions are required.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

**********The End**********