NGK Insulator, LTD.

Corporate R&D
DS Development Department #3
2-56 Suda-cho, Mizuho, Nagoya, 467-8530, Japan
Tel +81-52-872-7789
https://www.ngk.co.jp/

This product is a consumer product which is used in a hermetically sealed state. So, it is not an object of the SDS system. This document is provided to customers as reference information for the safe handling of the product. The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. NGK Insulators, LTD. makes no warranty expressed or implied.

PRODUCT SAFETY DATA SHEET

1 Product and Company Identification

Name of Product: Chip type Lithium secondary battery

Name of Company: NGK Insulators, LTD.

Address: 2-56 Suda-cho, Mizuho, Nagoya, 467-8530, Japan

Division: Corporate R&D

Department: DS Development Department #3

Telephone number: +81-52-872-7789

2 Hazards Identification

GHS Classification: Not applicable

Hazard: Electrolyte is inflammable. Risk of explosion by fire if batteries are disposed in fire or heated above 200 degrees C. Stacking or jumbling batteries may cause external short circuits, heat generation, fire or explosion.

Toxicity: Vapor generated from burning batteries, may irritate eyes, skin and throat.

3 Composition/Information of Ingredients

Components	Materials	CAS No.	Content
Positive electrode	Lithium cobalt oxide	12190-79-3	15~30wt%
Negative electrode	Lithium titanium oxide	12031-95-7	10~20wt%
Electrolyte	Lithium tetrafluoroborate	14283-07-9	1~20wt%
	Organic Solvent	-	
Others (Steel or Plastic parts)	Aluminum	7429-90-5	5~15wt%
	Cellulose	9004-34-6	1~3wt%
	Laminated Sheet	-	30~45wt%

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Capacity per battery

Model No.	Capacity	
	mWh	mAh
ET382704P-H	76	20

4 First Aid Measures

The product contains organic electrolyte. In case of electrolyte leakage from the battery, actions described below are required.

Eye contact: Flush the eyes with plenty of clean water for at least 15 minutes immediately, without rubbing. Get immediate medical treatment. If appropriate procedures are not taken, this may cause eye injury.

Skin contact: Wash the contact areas off immediately with plenty of water and soap. If appropriate procedures are not taken, this may cause sores on the skin.

Inhalation: Remove to fresh air immediately. Get medical treatment immediately.

5 Fire Fighting Measures

Extinguishing method: Since vapor, generated from burning batteries may make eyes, nose and throat irritates, be sure to extinguish the fire on the windward side. Wear the respiratory protection equipment in some cases.

Fire extinguishing agent: Alcohol-resistant foam and dry sand are effective.

6 Accidental Release Measures (in case of electrolyte leakage from the battery)

- Take up with absorbent cloth, treat cloth as inflammable.
- Move the battery away from the fire.

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7 Handling and Storage

- When packing the batteries, do not allow battery terminals to contact each other, or contact with other metals. Be sure to pack batteries by providing partitions in the packaging box, or in a separate plastic bag so that the single batteries are not mixed together.
- Use strong material for packaging boxes so that they will not be damaged by vibration, impact, dropping and stacking during their transportation.
- Do not deform batteries.
- Do not mix different type of batteries.
- Do not solder directly onto batteries.
- Do not let water penetrate into packaging boxes during their storage and transportation.
- Do not store the battery in places of the high temperature or under direct sunlight.
- Please also avoid the places of high humidity. Be sure not to expose the battery to condensation, rain or frozen condition.

8 Exposure Controls and Personal Protection (in case of electrolyte leakage from the battery)

Acceptable concentration: Not specified in ACGIH.

Facilities: Provide appropriate ventilation system such as local ventilator in the storage place.

Protective clothing: Self-Contained Breathing Apparatus for organic gases, safety goggle, and safety glove.

9 Physical and Chemical Properties

Appearance: Chip type

Voltage: 2.3 volts

10 Stability and Reactivity

Since batteries utilize a chemical reaction they are actually considered a chemical product. As such, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, the various usage conditions such as discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage.

11 Toxicological Information (in case of electrolyte leakage from the battery)

Acute toxicity: Oral(rat) LD50 > 2,000mg/kg (estimated).

Irritation: Irritating to eye and skin.

Mutagenicity: No specified.

Chronic toxicity: Not specified.

12 Ecological Information

In case the worn-out battery is disposed of on land, the battery case may corrode and leak electrolyte.

13 Disposal Considerations

When the battery is worn out, dispose of it under the ordinance of each local government.

14 Transport Information

- During the transportation of a large amount of batteries by ship, trailer or railway, do not leave them in the places of high temperatures and do not allow them to be exposed to condensation.
- During the transportation do not allow packages to be dropped or damaged.
- Proper shipping name : Lithium-ion batteries
- UN Number, UN Class : UN3480 , Class9
- Reference information :
  1. For batteries, the capacity is not more than 20Wh.
  2. Wh per battery is as below.
     ET382704P-H: 76mWh
  3. each battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, PartⅢ, sub-section 38.3.
- Please refer to the following reference information about concrete ways of transportation. Actual content of packaging label and shipping documents varies by shipping companies. Make sure to confirm in advance with your shipping company.

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15 Regulatory Information

- IATA Dangerous Goods Regulations
- IMO International Maritime Dangerous Goods Code

16 Other Information

This PSDS is provided to customers as reference information in order to handle batteries safely. It is necessary for the customer to take appropriate measures depending on the actual situation such as the individual handling, based on this information.

References

(1) UN Recommendations on the Transportation of Dangerous Goods, Model Regulations 18th revised edition

(2) IATA Dangerous Goods Regulations 65th Edition（2024）

(3) IMO International Maritime Dangerous Goods Code 2014 Edition

(4) UN Recommendations on the Transportation of Dangerous Goods, Manual of Tests and Criteria

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