

PRODUCT SAFETY INFORMATION (SDS)

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1. Identification;

Name of product; Lithium-Ion battery

Model name; G9280-62020 G9510-62020 G9280-62030

Manufacturer Name; TOYOTA MOTOR CORPORATION

Address; 1, Toyota-cho, Toyota, Aichi, 471-8571 JAPAN

Telephone number; +81-565-28-2121

Facsimile number; +81-565-72-9209

Department; EHV Battery Design Div.

2. Hazard identification;

- This product stores high voltage electricity at over 100 V. In case of removing the cover of battery assembly or heavy compression makes short circuit, electrical shock or severe burns that results in serious injury or death.

- Improper usage (overcharge, over-discharge or short circuit), extremely high temperature, sever shock or compression makes thermal runaway of the battery cells inside. Exhaust gas is flammable and may irritate the eyes, nose, and throat. (Further information; see HB-PE-008-01)

3. Composition/information on ingredients;

Part	Material name	Amount
Battery cell	Model name ; UF131463A	18.2kg
	Manufacturer ; Prime Planet Energy & Solutions, Inc. (Further information; see HB-PE-008-01)	
Electrolyte	Organic electrolyte mainly composed of alkyl carbonate	2.65L
Others	Iron	14.3kg
	Copper	1.4kg
	Aluminum	5.4kg
	Plastic and others	5.3kg

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4. First-aid measures;

In case of contact to accidentally spilled electrolyte or its vapor, following action is required.

- Inhalation; Move to the area of fresh air and take medical advice.
- Eye or skin contact; Wash with fresh water and take medical advice.
- Ingestion; Gargle with fresh water and take medical advice.

5. Fire-fighting measures;

- Extinguish the fire with copious amounts of water to cool down the high voltage battery.
- To avoid serious injury or death from severe burns or electric shock, never break or remove the high voltage battery assembly cover under any circumstances, including fire.
- If only a small amount of water is used to extinguish a fire, a short circuit may occur in the high voltage battery, causing the fire to reignite.
- It is recommended to allow the high voltage battery to burn itself out if it is judged that it is difficult to apply copious amounts of water to the high voltage battery.
- Burning Li-ion batteries may irritate the eyes, nose, and throat.
- Contact with the vapor produced by the electrolyte may also irritate the nose and throat.
- To avoid injury by coming in contact with the electrolyte or vapor, wear appropriate protective equipment such as rubber gloves, safety goggles, protective mask or SCBA when there is a risk of touching electrolyte or vapor.

6. Accidental release measures;

- The Li-ion battery electrolyte is a flammable organic electrolyte that is damaging to human tissues.
- The electrolyte is absorbed into the battery cell separators, even if the battery cells are crushed or cracked, it is unlikely that liquid electrolyte will leak.
- Any liquid electrolyte that leaks from a Li-ion battery cell quickly evaporates. Only a small amount may leak from the batteries which may irritate the eyes, nose, throat, and skin.
- Contact with the vapor produced by the electrolyte may irritate the nose and throat.
- To avoid injury caused by coming in contact with the electrolyte or vapor, wear appropriate protective equipment such as rubber gloves, safety goggles, protective mask or SCBA when there is a risk of touching electrolyte.
- If the electrolyte spills, keep it away from fire and ensure the area is well ventilated. Absorb the electrolyte with a waste cloth or equivalent absorbing material, and keep it in an airtight container until disposed of.

7. Handling and storage;

- This product stores high voltage electricity. To prevent serious injury or death from severe burns or electric shock, follow the precautions listed below.

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- 1) Do not remove the cover of battery assembly.
 - 2) Do not touch the high voltage components inside. Wear appropriate protective equipment such as insulated gloves when there is a risk of touching.
- The batteries are recommended to be charged to about 30 – 50% of capacity, then stored at room temperature.
 - Do not store the battery in places of the high temperature or under direct sunlight for a long time or in front of a stove. Please also avoid the places of high humidity. Be sure not to expose the battery to condensation, water drop.

8. Exposure controls/personal protection;

No Exposure controls nor personal protection is necessary under normal condition.

9. Physical and chemical properties;

Physical state; "Battery Box"

No chemical properties under normal condition.

10. Stability and reactivity;

Battery is stable and have no reactivity under normal condition.

Improper usage (overcharge, over-discharge or short circuit), extremely high temperature, sever shock or compression may cause thermal runaway of the battery cells inside. Exhaust gas is flammable and may irritate the eyes, nose, and throat.

(Further information; see HB-PE-008-01)

11. Toxicological information;

No toxicological information as the battery product.

12. Ecological information;

No ecological information as the battery product.

Do not expose to environment. Return to the manufacturer according to the recycle information.

13. Disposal considerations;

Return to the manufacturer according to the recycle information.

14. Transport information;

- UN Number; 3480
- Proper Shipping Name; Lithium ion batteries

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- Hazard Classification; Class 9 Miscellaneous
- Information of adaptation to UN Model Regulations, Manual of Tests and Criteria §38.3.
 - Test condition; Manual of Tests and Criteria Rev. 6
 - Battery assembly; Conformed
 - Battery cell built in the assembly; Conformed
- Specific information of the battery;
 - Watt-hour rating; 1.24(kWh)
 - Mass; 44.6 (kg)

15. Regulatory information;

- In the case of transportation, the latest edition of following regulations should be taken into consideration.
 - UN Model Regulations
 - ICAO Technical Instructions
 - IATA Dangerous Goods Regulations
 - IMDG code

16. Other information;

- This document is voluntarily provided to support our customers to handle the product safely.
- The technical data in this document is only for information and not to be taken as a warranty.
- The users should be responsible for determining the way to handle the product in accordance with associated federal, state and local laws and regulations.