

# Safety Data Sheet

Printing date 21.06.2024

Revision: 21.06.2024

## 1 Identification

**Product Name: LG Energy Solution JH3 Lithium-Ion Battery Cell**

**Other Means of Identification:** Mixture

**Recommended Use of the Chemical and Restriction on Use:** Electrical storage, including RESU6.5, RESU10 & RESU12

**Details of Manufacturer or Importer:**

LG Energy Solution Pty Ltd

Unit 12, 35 Dunlop Rd,

Mulgrave, VIC 3170 **Phone Number:** 0429 066 633 or 1300 178 064

**Emergency telephone number:** National Poison Information Centre: 13 11 26

## 2 Hazard(s) Identification

**Hazardous Nature:**

Not classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)



Skull and crossbones

Acute Toxicity (Inhalation) 2 H330 Fatal if inhaled.



Health hazard

Respiratory Sensitisation 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Toxic To Reproduction 1B H360 May damage fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure. Route of exposure: Inhalation.

**Signal Word** Danger

**Hazard Statements**

H330 Fatal if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H360 May damage fertility or the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure. Route of exposure: Inhalation.

**Precautionary Statements**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

(Contd. on page 2)

# Safety Data Sheet

Printing date 21.06.2024

Revision: 21.06.2024

**Product Name: LG Energy Solution JH3 Lithium-Ion Battery Cell**


(Contd. of page 1)

P310 Immediately call a POISON CENTER/doctor.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P320 Specific treatment is urgent (see on this label).  
 P314 Get medical advice/attention if you feel unwell.  
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national regulations.  
**Additional Information** Batteries are considered as articles and so are exempt from GHS classification.

## 3 Composition and Information on Ingredients

### Chemical Characterization: Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

Hazardous Components:		
CAS: 12190-79-3	Lithium cobaltite 	20 - 50%
CAS: 7440-50-8	Copper	5 - 20%
CAS: 7429-90-5	Aluminium	2 - 10%

### Additional information:

The battery is sealed hermetically and designed to withstand temperatures and pressures encountered during normal use. Thus, the ingredients have no hazard potential except if the battery is violated or dismantled. If exposed to a fire, mechanical shocks, and electric stress by misuse, the battery cell case will be breached and the hazardous materials may be released and acrid gas may be emitted. Therefore the batteries should not be short circuited, overcharged, punctured, incinerated, immersed in water, forced to discharge or exposed to temperatures above the temperature range of the cell or battery.

## 4 First Aid Measures

### Inhalation:

If exposure to fumes of a leaking battery occurs, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

### Skin Contact:

If battery is leaking and material contacts the skin, immediately remove contaminated clothing and wash affected areas with water for at least 15 minutes. Seek medical attention if symptoms occur.

### Eye Contact:

If battery is leaking and material contacts the eye, rinse cautiously with water for at least 15 minutes. Do not rub eyes. Remove contact lenses, if present and easy to do. Seek medical immediate attention.

### Ingestion:

If contents of an opened battery are swallowed do not induce vomiting. Immediately rinse mouth with water. Give a glass of water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

### Symptoms Caused by Exposure:

Inhalation: Contents of an open battery may cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Contact: Contents of an open battery may cause an allergic skin reaction.

Eye Contact: Contents of an open battery may cause eye irritation.

Ingestion: Contents of an open battery may be harmful if swallowed.

(Contd. on page 3)

# Safety Data Sheet

Printing date 21.06.2024

Revision: 21.06.2024

**Product Name: LG Energy Solution JH3 Lithium-Ion Battery Cell**

(Contd. of page 2)

## 5 Fire Fighting Measures

**Suitable Extinguishing Media:** Use fire extinguishing methods suitable to surrounding conditions.

**Specific Hazards Arising from the Chemical:**

Decomposition products include oxides of carbon and hydrogen fluoride.

Battery may ignite or explode when subjected to excessive heat, overcharged, over-discharged, punctured or crushed.

Containers close to fire should be removed if safe to do so. Cool fire exposed batteries to prevent rupture. Do not approach containers suspected to be hot. Use caution when handling fire-exposed containers.

**Special Protective Equipment and Precautions for Fire Fighters:**

When fighting a major fire wear self-contained breathing apparatus and protective equipment.

## 6 Accidental Release Measures

**Personal Precautions, Protective Equipment and Emergency Procedures:**

Wear approved respiratory and protective equipment. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking

**Environmental Precautions:** In the event of a major spill, prevent spillage from entering drains or water courses.

**Methods and Materials for Containment and Cleaning Up:**

The material contained within the battery is released only in the case of mechanical, electrical or thermal abuse. In the event of battery rupture and leakage allow the batteries to cool and the vapour to dissipate. Ensure adequate ventilation. Stop leak if safe to do so and absorb spill with sand, earth, vermiculite or some other absorbent material. Collect the spilled material and place into a suitable containment for resource recovery by approved service provider. Clean the spill area with water and detergent.

## 7 Handling and Storage

**Precautions for Safe Handling:**

Do not recharge, short-circuit, force discharge, disassemble, crush, deform, expose to high temperatures or incinerate. Do not mix battery types. Do not allow battery terminals to contact each other or other metals. Do not weld, solder or in any way modify batteries. Install batteries in accordance with manufacturer instructions. Do not install batteries incorrectly. Batteries may explode, pyrolise or vent if disassembled, crushed, overcharged or exposed to high temperatures.

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours. Use only outdoors or in a well-ventilated area.

Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Contaminated work clothing must not be allowed out of the workplace.

Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

**Conditions for Safe Storage:**

Store in a temperature protected area between -20 and 45 degrees celsius and well ventilated area. Protect from heat, sparks, open flames, hot surfaces and direct sunlight. Do not overcharge, disassemble, heat, dispose of in fire or short circuit. Elevated temperatures may shorten battery life. Protect from physical damage. Keep away from strong oxidising agents. Store in original packaging when not in use.

(Contd. on page 4)

# Safety Data Sheet

Printing date 21.06.2024

Revision: 21.06.2024

Product Name: LG Energy Solution JH3 Lithium-Ion Battery Cell

(Contd. of page 3)

## 8 Exposure Controls and Personal Protection

### Exposure Standards:

#### CAS: 7440-50-8 Copper

WES	TWA: 1* 0.2** mg/m <sup>3</sup> *dust&mists **fume
-----	---

#### CAS: 7429-90-5 Aluminium

WES	TWA: 10* 5** mg/m <sup>3</sup> *metal dust;**welding, pyro powders
-----	---

### Engineering Controls:

Not necessary under conditions of normal use.  
Ensure adequate ventilation of the working area.

### Respiratory Protection:

Respiratory protection is not required under normal use conditions.  
Use an approved type AX-P organic vapour respirator under conditions where exposure to the substance is apparent (e.g. In the case of abuse and leakage of liquid or emission of fumes) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

### Skin Protection:

Not necessary under conditions of normal use.  
In case of spill wear butyl rubber gloves. See Australian/New Zealand Standard AS/NZS 2161 for more information. When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered.  
Occupational protective clothing (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard AS/NZS 4501 for more information.

### Eye and Face Protection:

Eye protection is not required under normal use conditions.  
Wear eye and face protectors for protection against splashing materials or liquids in case of spills. See Australian/New Zealand Standard AS/NZS 1337 for more information.

## 9 Physical and Chemical Properties

### Appearance:

<b>Form:</b>	Solid
<b>Colour:</b>	No information available
<b>Odour:</b>	No information available
<b>Odour Threshold:</b>	No information available
<b>pH-Value:</b>	No information available
<b>Melting point/freezing point:</b>	No information available
<b>Initial Boiling Point/Boiling Range:</b>	No information available
<b>Flash Point:</b>	No information available
<b>Flammability:</b>	Product is non flammable.
<b>Auto-ignition Temperature:</b>	No information available
<b>Decomposition Temperature:</b>	No information available

(Contd. on page 5)

# Safety Data Sheet

Printing date 21.06.2024

Revision: 21.06.2024

**Product Name: LG Energy Solution JH3 Lithium-Ion Battery Cell**

(Contd. of page 4)

<b>Explosion Limits:</b>	
<b>Lower:</b>	No information available
<b>Upper:</b>	No information available
<b>Vapour Pressure:</b>	No information available
<b>Relative Density:</b>	No information available
<b>Vapour Density:</b>	No information available
<b>Evaporation Rate:</b>	No information available
<b>Solubility in Water:</b>	Insoluble
<b>Partition Coefficient (n-octanol/water):</b>	No information available
<b>Viscosity:</b>	No information available

## 10 Stability and Reactivity

**Possibility of Hazardous Reactions:** Hazardous polymerisation will not occur.

**Chemical Stability:** Stable at ambient temperature and under normal conditions of storage and use.

**Conditions to Avoid:**

Protect from heat, sparks, open flames, hot surfaces and direct sunlight. Do not recharge, disassemble, heat, dispose of in fire or short circuit. Elevated temperatures may shorten battery life. Protect from physical damage.

**Incompatible Materials:** Strong oxidising agents.

**Hazardous Decomposition Products:** Oxides of carbon and hydrogen fluoride.

## 11 Toxicological Information

**Toxicity:**

**LD50/LC50 Values Relevant for Classification:**

**CAS: 7440-50-8 Copper**

Oral	LD50	>2,000 mg/kg (rat)
------	------	--------------------

**Acute Health Effects**

**Inhalation:** Contents of an open battery may cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin:** Contents of an open battery may cause an allergic skin reaction.

**Eye:** Contents of an open battery may cause eye irritation.

**Ingestion:** Contents of an open battery may be harmful if swallowed.

**Skin Corrosion / Irritation:** Based on classification principles, the classification criteria are not met.

**Serious Eye Damage / Irritation:** Based on classification principles, the classification criteria are not met.

**Respiratory or Skin Sensitisation:**

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Germ Cell Mutagenicity:** Based on classification principles, the classification criteria are not met.

**Carcinogenicity:**

Cobalt and cobalt compounds are classified by IARC as Group 2B - Possibly carcinogenic to humans.

**Reproductive Toxicity:** Based on classification principles, the classification criteria are not met.

(Contd. on page 6)

# Safety Data Sheet

Printing date 21.06.2024

Revision: 21.06.2024

**Product Name: LG Energy Solution JH3 Lithium-Ion Battery Cell**

(Contd. of page 5)

**Specific Target Organ Toxicity (STOT) - Single Exposure:**

Based on classification principles, the classification criteria are not met.

**Specific Target Organ Toxicity (STOT) - Repeated Exposure:**

Based on classification principles, the classification criteria are not met.

**Aspiration Hazard:** Based on classification principles, the classification criteria are not met.

**Chronic Health Effects:** No information available

**Existing Conditions Aggravated by Exposure:** No information available

**Additional toxicological information:** No information available

## 12 Ecological Information

**Ecotoxicity:**

**Aquatic toxicity:**

**CAS: 7440-50-8 Copper**

EC50/48 h	0.792 mg/l (daphnia)
EC50/72 h	0.333 mg/l (algae)
LC50/96 h	0.0068-0.0156 mg/l (fathead minnow)
	0.0081 mg/l (fish)

**Persistence and Degradability:** No further relevant information available.

**Bioaccumulative Potential:** Some materials in this product may bioaccumulate.

**Mobility in Soil:** No further relevant information available.

**Other adverse effects:** No further relevant information available.

## 13 Disposal Considerations

**Disposal Methods and Containers:** Dispose according to applicable local and state government regulations.

**Special Precautions for Landfill or Incineration:**

Should be sent to an approved service provider for resource recovery

## 14 Transport Information

**UN Number**

ADG, IMDG, IATA

UN3480

**Proper Shipping Name**

ADG, IMDG, IATA

LITHIUM ION BATTERIES

**Dangerous Goods Class**

ADG Class:

9 Miscellaneous dangerous substances and articles.

**Subsidiary Risk:**

**Packing Group:**

Not applicable

**Marine pollutant:**

**EMS Number:**

F-A,S-I

(Contd. on page 7)

# Safety Data Sheet

Printing date 21.06.2024

Revision: 21.06.2024

**Product Name: LG Energy Solution JH3 Lithium-Ion Battery Cell**

(Contd. of page 6)

**Hazchem Code:** 4W  
**Special Provisions:** 188, 230, 310, 348, 376, 377, 384, 387  
**Limited Quantities:** 0  
**Packagings & IBCs - Packing Instruction:** P903, P908, P909, P910, LP903, LP904

## 15 Regulatory Information

Australian Inventory of Industrial Chemicals:	
CAS: 12190-79-3	Lithium cobaltite
CAS: 7440-50-8	Copper
CAS: 7440-44-0	Activated carbon
CAS: 24937-79-9	Ethene, 1,1-difluoro-, homopolymer

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Poison Schedule:**  
 Not Scheduled.

## 16 Other Information

**Date of Preparation or Last Revision:** 21.06.2024

**Prepared by:** LG Energy Solution Pty Ltd

### Abbreviations and acronyms:

ADG: Australian Dangerous Goods  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 IARC: International Agency for Research on Cancer  
 STEL: Short Term Exposure Limit  
 TWA: Time Weighted Average  
 NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)  
 Acute Toxicity (Inhalation) 2: Acute toxicity - inhalation – Category 2  
 Respiratory Sensitisation 1: Respiratory sensitisation, Hazard Category 1  
 Toxic To Reproduction 1B: Reproductive toxicity – Category 1B  
 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

### Disclaimer

This SDS is prepared in accord with the Safe Work Australia document "Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - July 2020"

The information contained in this safety data sheet is provided in good faith and is believed to be accurate at the date of issuance. LG Energy Solution Pty Ltd makes no representation of the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. MSDS.COM.AU Pty Ltd is not in a position to warrant the accuracy of the data herein. The user is cautioned to make their own determinations as to the suitability of the information provided to the particular circumstances in which the product is used.