LG Chem	SAFETY DATA SHEET	Version: R0001.0001
		Date of issue: 2016-05-10
		Revision date: 2016-05-10
	LGCHEM JP3 Lithium-Ion Polymer Battery	Change List: see Section 16.1

1. IDENTIFICATION

A. Product name

- LGCHEM JP3 Lithium-Ion Polymer Battery

B. Recommended use and restriction on use

- General use : Lithium-Ion Polymer Battery
- Restriction on use : Not available

C. Manufacturer / Supplier / Distributor information

○ **Manufacturer information**

- Company name : LG Chem Ltd.
- Address : LG Twin Tower, Youido-Dong, Youngdeungpo-Ku, Seoul, Korea
- Dept. :
- Telephone number : +82-2-3773-6740
- Emergency telephone number :
- Fax number :
- E-mail address : lkblive@lgchem.com

○ **Supplier/Distributer information**

- Company name : LG Chem Ltd.
- Address : LG Twin Tower, Youido-Dong, Youngdeungpo-Ku, Seoul, Korea
- Dept. :
- Telephone number : +82-2-3773-6740
- Emergency telephone number :
- Fax number :
- E-mail address : lkblive@lgchem.com

Legal Remark

U.S.A

- The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200 does not apply to various subcategories including anything defined by OSHA as an "article". The products are defined as "articles", and are exempted from the requirements for Material Safety Data Sheets.

EU

- The products are no "substances" or "mixtures" according to Regulation (EC) No 1907/2006 EC. Instead they have to be regarded as "articles", no substances are intended to be released during handling. Therefore there is no obligation to supply a Safety Data Sheet according to Regulation (EC) 1907/2006, Article 31.

General remark

- This Safety Data Sheet is provided as a service to our customers. This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only.
- It should not therefore be construed as guaranteeing any specific property of the product.

2. HAZARD IDENTIFICATION

A. GHS Classification

- No classification is presented since the product is legally an article rather than chemical substance or mixture according to The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200

B. GHS label elements

- Not applicable

C. Other hazards which do not result in classification :

- Not available

- Special Provision: 188, 230, 310, 957
- EmS: F-A, S-I

ICAO/IATA

- Packing Instruction: 965, 967
- Maximum Gross Weight per Package on Passenger and Cargo Aircraft: 5 kg
- Maximum Gross Weight per Package on Cargo Only Aircraft: 35 kg
- Special Provision: A45, A88, A99

IMO

-Packing Instruction: P903
- Special Provision: 188, 230, 310, 957
- EmS: F-A, S-I

US DOT

- This product is not subject to any other requirements of dangerous goods under 49
- CFR 173.185 (Lithium Batteries and Cells).

15. REGULATORY INFORMATION

A. National and/or international regulatory information

○ **Information of EU Classification**

- Information according to Regulation (EC) No 1272/2008 [CLP]
- Information according to Directive 67/548/EEC

○ **U.S. Federal regulations**

- Information according to ISHA
- Information according to TCCA and other chemical management regulations
- Dangerous Substances Safety Management Act
- Regulation of Disposal
- OSHA hazard communication standard (29 CFR 1910.1200)

__√__ Hazardous __ Non-hazardous

16. OTHER INFORMATION

A. Reference

- This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality
- Information contained in this safety data sheet is based on LG Chem owned data and public sources deemed valid or acceptable. The absence of data elements indicates, that no data meeting these requirements is available

B. Issue date

- 2016-05-11

C. Revision number and Last date revised

- Not applicable

D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).

D. Ingestion contact

- Rinse mouth.
- Immediately call a POISON CENTER or doctor/physician.
- Get immediate medical advice/attention.
- About whether I should induce vomiting Take the advice of a doctor.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Use extinguishing media suitable for the materials that are burning.

B. Specific hazards arising from the chemical

- 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.

C. Special protective actions for firefighters

- Notify your local firestation and inform the location of the fire and characteristics hazard.
- Avoid inhalation of materials or combustion by-products.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Use fire fighting procedures suitable for surrounding area.
- If possible, remove cell(s) from fire fighting area. If heated above 150°C, cell(s) may combust/vent.
- Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Protective equipment: Wear proper protective equipment
- Emergency procedures:

  <u>On Land</u>
  Place material into suitable containers and call local fire/police department.
  <u>In Water</u>
  If possible, remove from water and call local fire/police department.
- If required, notify relevant authorities according to all applicable regulations.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- Advise emergency services.

C. Methods and materials for containment and cleaning up

- Control personal contact by using protective equipment.
- Prevent, by any means available, containment from entering drains or water course.
- Dispose of waste in accordance with local regulation.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- No special protective clothing required for handling individual cells.
- Do not expose battery or cell to extreme temperatures or fire.
- Do not disassemble, crush or puncture battery.
- Do not overcharge or over discharge the battery.
- Do not connect (short circuit) positive and negative terminals.

- Do not place the batteries on conductive metal.

B. Conditions for safe storage, including any incompatibilities

- Store in a cool, dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

- **ACGIH TLV**
  - Not available
- **OSHA PEL**
  - Not available

B. Engineering controls

- Keep away from heat and open flame.
- Store in cool and dry place.

C. Personal protective equipment

- **Respiratory protection**
  - Not required during normal operations.
  - SCBA required in the event of fire.
- **Eye protection**
  - Not required beyond safety practices of employer.
- **Hand protection**
  - Not required for handling of cells.
- **Skin protection**
  - Steel toed shoes recommended for large container handling.
- **Others**
  - Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Solid
- Color	Not available
B. Odor	Not available
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	Insoluble
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	Not available

10. STABILITY AND REACTIVITY

A. Chemical Stability

- None during normal operating conditions.

B. Possibility of hazardous reactions

- None during normal operating conditions.

C. Conditions to avoid

- Avoid exposure to heat, open flame, and corrosives.
- Do not puncture, crush or incinerate.

D. Incompatible materials

- None during normal operating conditions.

E. Hazardous decomposition products

- None during normal operating conditions.
- If cells are damaged, hydrogen fluoride and carbon monoxide may be released.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

- **(Respiratory tracts)**
  - None during normal operating conditions.
- **(Oral)**
  - None during normal operating conditions.
- **(Eye·Skin)**
  - None during normal operating conditions.

B. Delayed and immediate effects and also chronic effects from short and long term exposure

- **Acute toxicity**

  *** Oral**

  - This product does not elicit toxicological properties during routine handling and use.

  *** Dermal**

  - This product does not elicit toxicological properties during routine handling and use.

  *** Inhalation**

  - This product does not elicit toxicological properties during routine handling and use.
- **Skin corrosion/irritation**
  - No irritation.
  - If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.
- **Serious eye damage/irritation**
  - Not available
- **Respiratory sensitization**
  - Not available
- **Skin sensitization**
  - No sensitization.
  - If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.
- **Carcinogenicity**
  - Not available
- **Germ cell mutagenicity**
  - Not available
- **Reproductive toxicity**
  - This product does not elicit toxicological properties during routine handling and use.
- **STOT-single exposure**
  - Not available
- **STOT-repeated exposure**
  - Not available
- **Aspiration hazard**
  - Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- **Fish**
  - Not available
- **Crustaceans**
  - Not available
- **Algae**
  - Not available

B. Persistence and degradability

- **Persistence**
  - Not available
- **Degradability**
  - Not available

C. Bioaccumulative potential

- **Bioaccumulative potential**
  - Some materials within the cell are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.
- **Biodegration**
  - Not available

D. Mobility in soil

- Not available

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

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

  Follow Directive 2006/66/EC.

  California regulated debris

  RCRA Waste Code : Non regulated

B. Special precautions for disposal

- Not available

14. TRANSPORT INFORMATION

A. UN No.

- 3480 / 3481

B. Proper shipping name

- Lithium Ion Batteries / Lithium Ion Batteries contained in equipment

C. Hazard Class

- Class 9
- Hazard label: Miscellaneous

D. Packing group

- II

E. Marine pollutant

- Not available

F. Special precautions for user related to transport or transportation measures

- Packing Instruction: P903

- Special Provision: 188, 230, 310, 957
- EmS: F-A, S-I

ICAO/IATA

- Packing Instruction: 965, 967
- Maximum Gross Weight per Package on Passenger and Cargo Aircraft: 5 kg
- Maximum Gross Weight per Package on Cargo Only Aircraft: 35 kg
- Special Provision: A45, A88, A99

IMO

-Packing Instruction: P903
- Special Provision: 188, 230, 310, 957
- EmS: F-A, S-I

US DOT

- This product is not subject to any other requirements of dangerous goods under 49
- CFR 173.185 (Lithium Batteries and Cells).

15. REGULATORY INFORMATION

A. National and/or international regulatory information

○ **Information of EU Classification**

- Information according to Regulation (EC) No 1272/2008 [CLP]
- Information according to Directive 67/548/EEC

○ **U.S. Federal regulations**

- Information according to ISHA
- Information according to TCCA and other chemical management regulations
- Dangerous Substances Safety Management Act
- Regulation of Disposal
- OSHA hazard communication standard (29 CFR 1910.1200)

__√__ Hazardous __ Non-hazardous

16. OTHER INFORMATION

A. Reference

- This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality
- Information contained in this safety data sheet is based on LG Chem owned data and public sources deemed valid or acceptable. The absence of data elements indicates, that no data meeting these requirements is available

B. Issue date

- 2016-05-11

C. Revision number and Last date revised

- Not applicable

D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).