

Safety Data Sheet


according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

1 Identification

- **Product identifier**
- **Trade name:** LG Lithium Ion Rechargeable Battery
- **Other means of identification:** INR18650MH1
- **Recommended use and restriction on use**
- **Recommended use:** Lithium-based battery product.
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
SharkNinja Operating LLC.
89 A Street, Suite 100
Needham, MA 02494
(617)456-8243
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**
Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 2 H330 Fatal if inhaled.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Carc. 1A H350 May cause cancer.
STOT RE 1 H372 Causes damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Additional information:**
Note: Leaking cells pose health hazards: see Sections 4 and 11. Intentional abuse of cells or batteries increases the risk of harm or damage to the product, to the user, and to surrounding materials and personnel. Do not attempt to open sealed cells or batteries. Do not intentionally short-circuit cells or batteries. Do not expose these products to temperatures exceeding the maximum manufacturers rating. Do not dispose of cells/batteries in landfills. Please follow all manufacturer guidelines in the use, storage, and disposal of these products. Consult manufacturer in cases of questions involving specific product usage.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**

GHS05 GHS06 GHS08
- **Signal word:** Danger
- **Hazard statements:**

(Cont'd. on page 2)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 1)

- H301 Toxic if swallowed.
- H330 Fatal if inhaled.
- H314 Causes severe skin burns and eye damage.
- H350 May cause cancer.
- H372 Causes damage to the central nervous system 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 mist/vapors/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.
- P285 In case of inadequate ventilation wear respiratory protection.
- P301+P310 If swallowed: Immediately call a poison center/doctor.
- P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P314 Get medical advice/attention if you feel unwell.
- P363 Wash contaminated clothing before reuse.
- 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/international regulations.

Other hazards There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Components:

182442-95-1	cobalt lithium manganese nickel oxide  Acute Tox. 2, H330  Carc. 1A, H350; STOT RE 1, H372	20-50%
21324-40-3	Lithiumhexafluorophosphat(1-)  Acute Tox. 3, H301; Acute Tox. 3, H331  STOT RE 1, H372  Skin Corr. 1A, H314; Eye Dam. 1, H318	10-20%
7429-90-5	Aluminum	2-10%
7440-50-8	Copper	2-10%

Additional information:

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

(Cont'd. on page 3)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 2)

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Information is only applicable to product contents, and not to product as normally supplied. This information is applicable to damaged, leaking, or spilled product as contact with contents is possible under these conditions.

· **After inhalation:**

Supply fresh air; consult doctor in case of complaints.

Provide oxygen treatment if affected person has difficulty breathing.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After skin contact:**

Immediately remove any clothing soiled by the product.

Immediately wash with water and soap and rinse thoroughly.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

· **After eye contact:**

Remove contact lenses if worn, if possible.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Headache

Breathing difficulty

Coughing

Caustic effect on skin and mucous membranes.

Nausea

Gastric or intestinal disorders

Vomiting.

Diarrhea.

· **Danger:**

Fatal if inhaled.

Toxic if swallowed.

Danger of disturbed cardiac rhythm.

Danger of convulsion.

May cause cancer.

Causes damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Indication of any immediate medical attention and special treatment needed:**

Monitor circulation, possible shock treatment.

Medical supervision for at least 48 hours.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Graphite powder.

Copper powder.

Water in flooding quantities.

(Cont'd. on page 4)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 3)

Fire-extinguishing powder

Sand

ABC powder

· **For safety reasons unsuitable extinguishing agents:** None.

· **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information:** Cool endangered receptacles with water in flooding quantities.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

If containers are leaking, use respiratory protective device against the effects of fumes/dust/aerosol.

Ensure adequate ventilation.

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions** Avoid release to the environment.

· **Methods and material for containment and cleaning up**

Absorb liquid components with liquid-binding material.

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling**

· **Precautions for safe handling:**

Keep away from open flames or temperatures exceeding manufacturer ratings. DO NOT ATTEMPT TO OPEN SEALED CELLS OR BATTERIES – BATTERY CONTENTS MAY PRESENT SERIOUS SAFETY AND HEALTH HAZARDS. SHORT-CIRCUITING THE TERMINALS OF A DEVICE MAY RESULT IN DAMAGE TO DEVICE AND ANY NEARBY OBJECTS OR PERSONNEL.

· **Information about protection against explosions and fires:**

Protect from heat.

Protect against electrostatic charges.

Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**

Store in a dry, well-ventilated place.

Do not use or store near open flame.

Avoid extreme temperatures; battery may rupture and release contents.

Do not store and transport with incompatible materials.

Store individual batteries or cells only in approved packaging in order to avoid inadvertent short circuits, as this may result in damage to device, nearby objects, personnel, or all of the above.

(Cont'd. on page 5)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 4)

- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from water.
- **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

7429-90-5 Aluminum

PEL (USA)	Long-term value: 15*; 5** mg/m ³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	Long-term value: 1* mg/m ³ as Al; *as respirable fraction
EL (Canada)	Long-term value: 1.0 mg/m ³ respirable, as Al
EV (Canada)	Long-term value: 5 mg/m ³ aluminium-containing (as aluminium)
LMPE (Mexico)	Long-term value: 1* mg/m ³ A4, *fracción respirable

7440-50-8 Copper

PEL (USA)	Long-term value: 1* 0.1** mg/m ³ as Cu *dusts and mists **fume
REL (USA)	Long-term value: 1* 0.1** mg/m ³ as Cu *dusts and mists **fume
TLV (USA)	Long-term value: 1* 0.2** mg/m ³ *dusts and mists; **fume; as Cu
EL (Canada)	Long-term value: 1* 0.2** mg/m ³ *dusts and mists; **fume, as Cu
EV (Canada)	Long-term value: 0.2* 1** mg/m ³ as copper, *fume; **dust and mists
LMPE (Mexico)	Long-term value: 0.2* 1** mg/m ³ *humo (como Cu); **polvo y niebla (como Cu)

- **Exposure controls**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Engineering controls:** No relevant information available.
- **Breathing equipment:**
Not required under normal conditions of use.
For spills, respiratory protection may be advisable.

(Cont'd. on page 6)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 5)

- **Protection of hands:**
Not required under normal conditions of use.
Wear protective gloves to handle contents of damaged or leaking units.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **Material of gloves**
Butyl rubber, BR
Nitrile rubber, NBR
Natural rubber, NR
Neoprene gloves
Fluorocarbon rubber (Viton)
- **Eye protection:**
Not required for normal handling. Wear protective eyewear while handling damaged or leaking product.
- **Body protection:**
Protective work clothing
Protection may be required for spills.
- **Limitation and supervision of exposure into the environment**
Avoid release to the environment.
- **Risk management measures** No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

- **Appearance:**
 - **Form:** Solid
 - **Color:** According to product specification
- **Odor:** Odorless
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Melting point/Melting range:** Not determined.
- **Boiling point/Boiling range:** Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Auto-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Danger of explosion:** Not determined.
- **Explosion limits**
 - **Lower:** Not determined.
 - **Upper:** Not determined.
- **Oxidizing properties:** Non-oxidizing.
- **Vapor pressure:** Not applicable.
- **Density:**
 - **Relative density:** Not determined.
 - **Vapor density:** Not applicable.
 - **Evaporation rate:** Not applicable.

(Cont'd. on page 7)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 6)

- | | |
|---|------------------------------------|
| · Solubility in / Miscibility with Water: | Insoluble. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| · Other information | No relevant information available. |

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
Stable at ambient temperature.
To avoid thermal decomposition, do not overheat.
- **Possibility of hazardous reactions**
Hazardous reactions generally occur with contents of leaking batteries only.
Toxic fumes may be released if heated above the decomposition point.
Reacts with strong acids and oxidizing agents.
Reacts with strong alkali.
Contact with water releases flammable gases.
- **Conditions to avoid**
Excessive heat.
Avoid acids.
Store away from oxidizing agents.
Moisture.
- **Incompatible materials**
Oxidizers, strong bases, strong acids
Water
- **Hazardous decomposition products**
Under fire conditions only:
Carbon monoxide and carbon dioxide
Toxic metal oxide smoke

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
None from normal handling. Symptoms only seen in exposure to leaking articles.
Fatal if inhaled.
Toxic if swallowed.

· **LD/LC50 values that are relevant for classification:****21324-40-3 Lithiumhexafluorophosphat(1-)**

Oral | LD50 | >50-300 mg/kg (rat)

(Cont'd. on page 8)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 7)

- **Primary irritant effect:**
- **On the skin:**
None from normal handling. Symptoms only seen in exposure to leaking articles.
Caustic effect on skin and mucous membranes.
- **On the eye:**
None from normal handling. Symptoms only seen in exposure to leaking articles.
Causes serious eye damage.
- **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

182442-95-1	cobalt lithium manganese nickel oxide	1
-------------	---------------------------------------	---

· **NTP (National Toxicology Program):**

182442-95-1	cobalt lithium manganese nickel oxide	K
-------------	---------------------------------------	---

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable route(s) of exposure:**

Information references exposures to battery contents, and not exposures to whole units. Exposures to whole units are unlikely to produce health hazards.

- Eye contact.
- Skin contact.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:**

None from normal handling. Symptoms only seen in exposure to leaking articles.
May cause cancer.

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure:**

None from normal handling. Symptoms only seen in exposure to leaking articles.
Causes damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.

· **Additional ecological information**

- **General notes:** Avoid transfer into the environment.
- **Other adverse effects** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**

(Cont'd. on page 9)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 8)

Contact waste processors for recycling information.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **DOT, ADR/RID/ADN, IMDG, IATA**

UN3480 / UN3481 / UN3481

· **UN proper shipping name**

· **DOT, ADR/RID/ADN, IMDG, IATA**

LITHIUM ION BATTERIES / LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT / LITHIUM ION BATTERIES PACKED WITH EQUIPMENT

· **Transport hazard class(es)**

· **DOT, ADR/RID/ADN, IMDG, IATA**



· **Class**

9

· **Label**

9

· **Packing group**

This UN-number is not assigned a packing group.

· **Environmental hazards**

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Miscellaneous dangerous substances and articles

· **EMS Number:**

F-A,S-I

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

This battery has passed the test requirements according to the UN Manual of Tests and Criteria Part III, Subsection 38.3
Watt Hour Rating: 11.84Wh



Lithium Battery Mark

(Cont'd. on page 10)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 9)



UN3480: Cargo Aircraft Only. Maximum 30% state of charge (SoC).

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

182442-95-1	cobalt lithium manganese nickel oxide
7429-90-5	Aluminum
7440-50-8	Copper

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed or exempt.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

182442-95-1	cobalt lithium manganese nickel oxide
-------------	---------------------------------------

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

7440-50-8	Copper	D
-----------	--------	---

· **IARC (International Agency for Research on Cancer):**

182442-95-1	cobalt lithium manganese nickel oxide	1
-------------	---------------------------------------	---

· **Canadian Domestic Substances List (DSL): (Substances not listed.)**

Contact manufacturer for further information.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

(Cont'd. on page 11)

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: April 22, 2019

Trade name: LG Lithium Ion Rechargeable Battery

(Cont'd. of page 10)

Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Carc. 1A: Carcinogenicity – Category 1A

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Sources

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com