ISSUED DATE ： 19 June. 2018
REVISED DATE： 21 Jan. 2025

SDS (Safety Data Sheet)

Batteries with energy content of less than 100Wh

1.PRODUCT AND COMPANY IDENTIFICATION

・PRODUCT NAME：Lithium ion rechargeable battery pack
・Product code：EBM315(326263, 326263M), EBM1830(326241, 326241M), BCL1015(331065, 331065M), BCL1815(327730), BSL1415X(330140), BSL1815(333353,333353M), BSL1815(333357M), BSL1815X(330139), BSL1820M(377797M), BSL1825(336290), BSL1830(330067), BSL1830C(339782, 339782M), BSL1840(335180), BSL1840M(378681M), BSL1850(335791), BSL1860(338890, 338890M), BSL2530(328034), BSL36A18(371751M), BSL36A18X(380083M), BSL36B18(372121M) BSL3640MVT(381991M)

・Manufacturer/Supplier：Koki Holdings America Ltd. (Metabo HPT)
・Address：1111 Broadway Avenue
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【 Management No. B-001-1 】

2.HAZARDS IDENTIFICATION

For the battery cell, chemical materials are stored in a hermetically sealed metal, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, there is no physical danger of ignition or explosion and chemical danger of hazardous materials' leakage.

However, if exposed to a fire, added mechanical shocks, decomposed, added electric stress by miss-use, the gas release vent will be operated. The battery cell case will be breached at the extreme, hazardous materials may be released.

Moreover, if heated strongly by the surrounding fire, acrid gas may be emitted.

・GHS classification: Not available
(This product is outside the scope of GHS system since it's considered as an "article".)

・Most important hazard and effects
Human health effects:
Inhalation : The steam of the electrolyte has an anesthesia action and stimulates a respiratory tract.
Skin contact: The steam of the electrolyte stimulates a skin.
The electrolyte skin contact causes a sore and stimulation on the skin.
Eye contact : The steam of the electrolyte stimulates eyes.
The electrolyte eye contact causes a sore and stimulation on the eye. Especially, substance that causes a strong inflammation of the eyes is contained.
Environmental effects: Since a battery cell remains in the environment, do not throw out it into the environment.

・Specific hazards:
If the electrolyte contacts with water, it will generate detrimental hydrogen fluoride.
Since the leaked electrolyte is inflammable liquid, do not bring close to fire.

3. COMPOSITION / INFORMATION ON INGREDIENTS

・Substance or preparation: Preparation

・Information about the chemical nature of product: *1

CAS-No.	Chemical name	Ingredients (wt%)
12190-79-3	Lithium cobalt oxide	< 30
12057-17-9	Lithium manganese oxide	< 30
12325-84-7	Lithium nickel oxide	< 30
7440-44-0	Carbon	< 30
24937-79-9	Polyvinylidene fluoride (PVdF)	< 10
554-12-1	Methyl propionate	1 - 5
114435-02-8	4-Fluoro-1,3-dioxolan-2-one	1 - 3
616-38-6	dimethyl carbonate	1 - 3
21324-40-3	lithium hexafluorophosphate(1-)	1 - 3
7429-90-5	Aluminium	1 - 10
7440-50-8	Copper	1 - 15
7782-42-5	Graphite	1 - 30
9002-88-4	Polyethylene	1 - 3
1318-23-6	Boehmite (Al(OH)O)	0.1 - 1

*1 Not every product includes all of these materials.

4. FIRST-AID MEASURES

Spilled internal cell materials

・Inhalation : Make the victim blow his/her nose, gargle. Seek medical attention if necessary.

・Skin contact : Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately.

・Eye contact : Do not rub one's eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention immediately.

A battery cell and spilled internal cell materials

・Ingestion : Make the victim vomit. When it is impossible or the feeling is not well after vomiting, seek medical attention.

5. FIRE-FIGHTING MEASURES

・Suitable extinguishing media : Plenty of water, carbon dioxide gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam.

・Specific hazards : Corrosive gas may be emitted during fire.

・Specific methods of fire-fighting : When the battery burns with other combustibles simultaneously, take fire extinguishing method which correspond to the combustibles. Extinguish a fire from the windward as much as possible.

・Special protective equipment for firefighters:

Respiratory protection : Respiratory equipment of a gas cylinder style or protection-against-dust mask

Hand protection : Protective gloves

Eye protection : Goggle or protective glasses designed to protect against liquid splashes

Skin and body protection : Protective cloth

6. ACCIDENTAL RELEASE MEASURES

Spilled internal cell materials, such as electrolyte leaked from a battery cell, are carefully dealt with according to the followings.

・Precautions for human body: Remove spilled materials with protective equipment (protective glasses and protective gloves). Do not inhale the gas as much as possible. Moreover, avoid touching with as much as possible.

・Environmental precautions : Do not throw out into the environment.

・Method of cleaning up : The spilled solids are put into a container. The leaked place is wiped off with dry cloth.

・Prevention of secondary hazards: Avoid re-scattering. Do not bring the collected materials close to fire.

7. HANDLING AND STORAGE

- Handling suggestions
  - Do not connect the positive terminal to the negative terminal with electrical wire or chain.
  - Avoid polarity reverse connection when installing the battery to an instrument.
  - Do not wet the battery with water, seawater, drink or acid; or expose to strong oxidizer.
  - Do not damage or remove the external tube.
  - Keep the battery away from heat and fire.
  - Do not disassemble or reconstruct the battery; or solder the battery directly.
  - Do not give a mechanical shock or deform.
  - Do not use unauthorized charger or other charging method. Terminate charging when the charging process doesn't end within specified time.
- Storage
  - Do not store the battery with metalware, water, seawater, strong acid or strong oxidizer.
  - Make the charge amount 30~50% then store at room temperature or less (temperature= -20~35 ℃ (-4oF to 95oF),) in a dry (humidity: 45~85%) place. Avoid direct sunlight, high temperature, and high humidity.
  - Use insulative and adequately strong packaging material to prevent short circuit between positive and negative terminal when the packaging breaks during normal handling. Do not use conductive or easy to break packaging material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Control parameters
  ACGIH has not been mentioned control parameter of electrolyte.
- Personal protective equipment
  Respiratory protection: Respirator with air cylinder, dust mask
  Hand protection: Protective gloves
  Eye protection: Goggles or protective glasses designed to protect against liquid splashes
  Skin and body protection: Working clothes with long sleeve and long trousers

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance
  Physical state: Solid
  Form: Cylindrical or Prismatic or Pouch (laminated)
  Color: Metallic color or black(without tube if it has tube)
  Odor: No odor

10. STABILITY AND REACTIVITY

- Stability: Stable under normal use
- Hazardous reactions occurring under specific conditions
- Conditions to avoid: When a battery cell is exposed to an external short-circuit, crushes, deformation, high temperature above 100 degree C, it will be the cause of heat generation and ignition. Direct sunlight and high humidity.
- Materials to avoid: Conductive materials, water, seawater, strong oxidizers and strong acids.
- Hazardous decomposition products: Acrid or harmful gas is emitted during fire.

11. TOXICOLOGICAL INFORMATION

Organic Electrolyte

- Acute toxicity: LD50, oral - Rat 2,000mg/kg or more
- Irritating nature: Irritative to skin and eye

12. ECOLOGICAL INFORMATION

- Persistence/degradability : Since a battery cell and the internal materials remain in the environment, do not bury or throw out into the environment.

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13. DISPOSAL CONSIDERATIONS

▪Recommended methods for safe and environmentally preferred disposal:

Product (waste from residues)

Specified collection or disposal of lithium ion battery is required by the law like as "battery control law" in several nations. Collection or recycle of the battery is mainly imposed on battery's manufacturer or importer in the nations recycle is required.

Contaminated packaging

Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.

14. TRANSPORT INFORMATION

In the case of transportation, avoid exposure to high temperature and prevent the formation of any condensation. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a cell. Please refer to Section 7-HANDLING AND STORAGE also.

Lithium-ion batteries are tested in accordance with UN manual of Tests and Criteria, Part III, subsection 38.3

■Batteries with energy content of less than 100Wh: (The energy content in Wh is noted on the nameplate of the battery.)

Regulation depends on region and transportation mode

Worldwide, Air transport : IATA-DGR

The product fulfils the following requirements:

- Battery pack separately (without equipment)
  - No quantity limit per package : UN Number; 3480, Transport Hazard class; 9, Packing Instruction; 965, Section IB
- Battery pack with equipment
  - less than or equal to 5kg the battery pack total weight : UN Number; 3481, Transport Hazard class; 9, Packing Instruction; 966, Section II
  - greater than 5kg the battery pack total weight : UN Number; 3481, Transport Hazard class; 9, Packing Instruction; 966, Section I
- Battery pack built-in into equipment (attached to equipment)
  - less than or equal to 5kg the battery pack total weight : UN Number; 3481, Transport Hazard class; 9, Packing Instruction; 967 Section II
  - greater than 5kg the battery pack total weight : UN Number; 3481, Transport Hazard class; 9, Packing Instruction; 967 Section I

Worldwide, Sea ship : IMO-IMDG Code [special provision 188]

The product fulfils the requirements of Special provision 188 of the IMDG code. If the requirements for Packing, Labelling and documentation according this special provision are fulfilled, no additional regulations are applicable.

Europe, Land transport : ADR/RID/GGVSE [special provision 188]

The product fulfils the requirements of Special provision 188 of the ADR/RID/GGVSE. If the requirements for Packing, Labelling and documentation according this special provision are fulfilled, no additional regulations are applicable.

SOC(State of charge) : The IATA Dangerous Goods Regulations require SOC for battery pack must be less than 30%. The battery is controlled below 30% of SOC by manufacturing plant before shipment.

15. REGULATORY INFORMATION

- Regulations specifically applicable to the product:
  Wastes Disposal and Public Cleaning Law [Japan]
  Law for Promotion of Effective Utilization of resources [Japan]
  US Department of Transportation 49 Code of Federal Regulations [USA]

** About overlapping regulations, please refer to Section 14-TRANSPORT INFOMATION.*

16. OTHER INFORMATION

- This safety data sheet is offered an agency who handles this product to handle it safely.
- The agency should utilize this safety data sheet effectively (put it up, educate person in charge) and take proper measures.
- ***The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.***
- This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

Reference

Dangerous Goods Regulations – 65st Edition Effective 1 January 2024: International Air Transport Association (IATA)

IMDG Code – 2022 Edition: International Maritime Organization (IMO)

The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR 2023): The United Nations Economic Commission for Europe (UNECE)

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